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LECTURES ON SOUNDNESS IN HORSES.

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LECTURE IV.

GENTLEMEN,—At our last meeting we had got so far in our examination as the near-side shoulder, and I warned you about collar marks, and what they occasionally pointed to. The shoulders are liable to injury in one or two ways, and show it either as atrophy of the muscles on either side of the spine of the scapular, or by some mark at the point of the shoulder from injury or from surgical treatment. Atrophy of the shoulder, vulgarly known as "Shoulder Slip," is rather a common disease, more especially among young horses used for much collar work. Those used for ploughing and harness are perhaps more liable to it than others. It has been supposed that slipping in the furrow produces it in the one case; but in the other I am not aware that even a guess has been made as to its cause. This is scarcely the place to discuss the matter; but I believe it to be caused by prolonged over-exertion of the muscles of the shoulder, so that the sarcous elements are so worn out and enervated that they are incapable of reproducing themselves in their integrity,

and some degree of degeneration results. However, we know that wasting of the parts is a common disease, and often incurable, so far as I have observed; and it has, and this is most important to us now, degrees of intensity—from an almost imperceptible diminution, to the most bony, wasted flatness, where the outline of the scapula is nearly as well seen as in the skeleton itself. In the more confirmed cases, a horse would more probably be brought to you for treatment than examination as to soundness; so that we have rather to do now with the slighter cases. When a shoulder is well nourished, the muscles on each side of the ridge so fill their respective fossæ, that little besides the asperity on the spine of the scapula for the insertion of the trapezius, is seen; and both your hands laid flat on the shoulder at the same time, meet from these muscles a firm elastic resistance on pressure, and do not come in contact with the spine of the scapula except at the point I have mentioned. Then, again, the surface of these muscles, from before backwards, is rather convex; indeed, very convex in such as are of good healthy tone. You fail to find the firm, elastic resistance and the convexity in such as are diseased to any great extent. I rely more on these signs than on a comparison of one shoulder with its fellow, which we can effect by standing in front of the horse and elevating his chin above our head: because, in the first place, both shoulders may be atrophied; and further, we so very frequently find the shoulder of the leading leg rather larger than its fellow. This is a part of the examination in which you cannot be too careful. The injury leading to the affection may be inflicted one week, and the lameness and stiffness, treated by rest, hot fomentations, and physic, may have so far been overcome the next, that physical signs are absent, and the lameness only is to be detected; and this may be so slight that an expert dealer's man, in trotting the horse for you, may effectually conceal it. I cannot too much impress upon you the necessity of being on your guard in these slight cases; for in not a few instances do they become serious within the time that a horse, found to be unsound, may be returned. I remember passing a three-year-old bay carriage horse, that became lame from this cause soon afterwards. I detected no difference in the two shoulders at the

time; not that I was very closely looking for any, but when he had been driven alongside another horse for three weeks or less, he became decidedly lame. The gentleman took him to an elderly veterinarian in whose district my client happened to be staying for a time, when atrophied shoulder was made out, and an opinion given that it was of some standing. Now, there happened to be a distinct history of accident in this case. The coachman, a hard driver, in going down a hill, saw the horse half fall on what afterwards became his lame side; recovering himself, the horse went home all right, but next morning he was lame—stiff on that shoulder. Here, no doubt, was a sprain, followed by partial disuse of the parts, and consequent atrophy. The horse was treated by rest, hot fomentations, physic, counter irritation, etc., and when brought home some weeks after, the shoulder, much less than its fellow, showed symptoms of having been well blistered; so that inflammatory action had ceased. I recommended the owner to have the cold-water hose turned on to the animal's shoulder for three minutes night and morning, the part to be afterwards rubbed till it was not only dry but hot, and the horse to be allowed to run in a small paddock during the day. In a few weeks he was quite well.

Please to note the difference between these cases, through enforced idleness of the muscles from the pain of inflammation of a part of the shoulder, and those which arise from exhaustion, and consequent innervation of the whole muscle from prolonged exertion. In the former case, we have a very curable condition, but not so in the latter. Again, should the atrophy be due to enforced rest of the muscles from disease in the shoulder-joint, it is not likely to be overlooked by you; inasmuch as you have two distinct evidences of it, in the diminished size of the parts, and the lameness, which is always pronounced. The point of the shoulder should claim your attention. Marks of setons, blistering, or firing, are not unfrequently to be found. Should the horse be a valuable one, and he be at the same time sound, so far as you can make out, you will often be at no little loss how to act when there are evidences of treatment. What was said with regard to evidences of a horse having been bled at the jugular vein, might here be repeated. It may be that the horse has really been

lame in the shoulder, and the lameness now absent may recur; or it may be that he has never been lame in the shoulder, and yet has been treated for shoulder lameness. In any case, should the horse pass muster in everything except these marks, by all means let him pass with the whole of that limb (and not the shoulder only) warranted to stand sound for a prescribed time.

The parts from the point of the shoulder to the elbow are seldom found to require much of our attention at these times, and the elbow joint is remarkably free from ailment at all times; and, as the parts from the elbow to the "carpus" (knee) are also singularly free from disease, practically we can pass from the point of the shoulder to the knee almost at once. We are, in our plan, examining the front part of the limb first.

Having come to the knee, we are arrived at an important part—a part much liable to injury, and one which can receive none but the most trivial scratch with impunity. The sight and touch do a good deal for us here, but by no means all. On passing the fingers over the front of the knee, and smoothing the hair, we may feel and see any injury to the skin. Unfortunately, the term "broken knees" is such a vague one that it includes every degree from mere clipping or chipping off of the hair, to laying open of the joint and exposure of the bones. And yet, strange as it may appear to you, I can assure you that, throughout the whole horse universe, there is almost as strong an objection to the very mildest blemish at this part as there is to the very worst. Why this widely-prevalent suspicion of "broken knees"? We ought never to altogether ignore a popular belief, and therefore not this. The degrees of injury to the knee, all alike known opprobriously as "broken knee," I will enumerate as they actually occur. 1. You may have mere chipping or clipping of the hair, with or without a bruise of the integuments beneath. 2. You may have the above, together with wounded skin. 3. You may have the first two together, with a clean incision of the subcutaneous (cellular) tissue; or this tissue, instead of being simply incised, may be bruised and lacerated. 4. You may have the three foregoing conditions, together with exposure and wounding of the hard tissues forming the extensor tendons and their sheaths, as they pass in front of the knee. 5. You may

have the knee joint itself laid open. Now as to your diagnosis of these respective conditions, beginning at the first. It is evident that, if the hair only is cut, it will grow again, and you would fail to find any evidence of the injury after two or three weeks. If, however, as more frequently happens, the knee receives a blow at the time of the accident—although the skin may not be cut—the skin may have been damaged and the hair bulbs so injured, that they for ever afterwards are more vascular, and consequently the hair grows stronger, and will not lie smooth; or, again, the hair bulbs may be so encroached upon by the organized hyperplasia which has become permanently lodged in the skin, that atrophy takes place through absorption, and you find thin, wiry, starved white hairs.

The second degree, or wounded skin, shows itself in either condition of hair already enumerated, if the injury has been severe; or in the form of a bruise; but if only a clean incision —a condition seldom seen—you would have no evidence whatever after the hair had grown, as the cicatrix would be entirely covered. If the cellular tissue have suffered, as well as the skin, here again a clean incision leaves no evidence; but when, as in the majority of cases, it has been crushed and lacerated, a slough forms, and the cicatricial tissue being hard and inelastic, renders the skin fixed and immovable. The fourth and fifth degrees of injury cause adhesion between the extensor tendons and their sheaths; so that if you flex the limb, and endeavour to make the fetlock touch the elbow, you find it will not do so. It must be evident to you that a horse suffering from the effects of the fourth and fifth degrees is unsound, inasmuch as he cannot bend his knee; but how about the remaining three? It is just as evident that the lesions, if any, remaining after any one or all combined of the first three degrees of injury, will not mechanically interfere with the free flexion and use of the knee. But, unfortunately, there happens to be an injury, the nature, extent, and consequences of which we have no means of estimating. I refer to the weakness following a *severe blow* upon a joint.

Question a man who has suffered at any time from a severe blow upon one of his joints, and he will tell you that the joint is

weak, and yet he may have no scar whatever to show you. Four years ago I received a blow from a horse on the knuckle of the index finger of my right-hand, while bleeding him at the toe. At first I thought the joint was laid open, but this proved not to be the case. The only evidence left now is a cicatrix of the skin, which is freely movable, and can be pinched up as high as the skin on the fellow knuckle; the tendon over it is also freely movable, and so is the joint; and yet, with all this seeming perfection, the joint is weak. This being so, then you see we have two forms of imperfection only to look for in the knee of the horse: namely, mechanical impediment, and weakness. The former arises out of either of the fourth or fifth degrees of injury, which we have such a ready and sure means of detecting; the latter we are not so certain about—the evidences of a blow sufficient to cause permanent weakness being more equivocal. But, practically, we look to evidences of injury to the hair; such as absence, stiffness, or discolouration; finding any of these, unsoundness is our verdict, although the action may be perfect, and the horse in every other respect sound. This is such an important part of our present study, that I shall make a few more remarks upon it at the beginning of my next lecture.

(*To be continued.*)

ACUTE GASTRITIS IN A MARE, FROM THE PRESENCE OF THE LARVÆ OF THE *ŒSTRUS EQUI*.

BY JOHN HOWARD, M.R.C.V.S., WOOLWICH.

IN the spring of 1874 I was called to attend a black cart-mare, eight years old, the property of a Government contractor in this town. I found her at seven o'clock in the evening lying on her belly; she appeared very dull, groaning occasionally, and looking towards her sides; pulse 48, and slightly oppressed; mucous membrane of a dirty-yellow hue, ears and extremities cold; no violent colicky symptoms were ever exhibited during the course of the disease. Her driver stated that she had appeared

indisposed to work during the afternoon, had lost her natural brisk and cheerful manner, and quietly laid down in her harness whenever she got the opportunity. The morning meal had been eaten as usual, but the allowance at mid-day was refused.

I gave a stimulating draught, and purgative; ordered mustard to the abdomen, friction and bandages to the legs, and left her for the night: a watch was kept.

Next morning the mare was much worse; she had refused all food; the pulse was 60, and similar in character; changing position at intervals, from the erect to the recumbent posture, and *vice versâ*: this was done very quietly, and there was not the slightest irritability or expression of urgent pain manifested, as seen in Colic and Enteritis. Occasionally there was a low groan and a stolid look towards the abdomen, while cold sweats broke out at intervals; the mouth was hot and full of thick ropy saliva, and the breath fœtid. She was afraid to stretch out to micturate, but tried to do so several times. Having passed no urine since the beginning of the attack, I inserted the catheter and emptied the bladder, which was much distended. The mucous membranes were now of a yellowish-red colour. I gave oatmeal gruel and aconite, had hot clothes applied to the abdomen, and enemas were occasionally administered. In the evening all the foregoing symptoms were intensely increased. The patient was now attacked with clonic spasms of the muscles of the limbs, with constant quivering of the abdominal muscles; and the medicine, after being swallowed, was immediately returned through the nostrils; pulse 90, and very small. She now suffered from continual eructations of fœtid gas and watery material from the stomach; their frequent and regular passage up the œsophagus, when viewed from the near side, might have been mistaken for the so-called venous regurgitation in the jugulars in cardiac disease, as not the slightest movement of the pharynx or larynx was visible, and the body in other respects was quite passive, there being not the slightest sign of co-operation in any organ, or by bodily posture any attempt at favouring the performance of the act, as seen in true vomition; it had the exact appearance of the jerks seen in heart disease. Three small doses of Acid Hydrocyan. with Soda Bicarb. were given at intervals

during the evening; but they did no good, being returned each time *per nares* almost immediately. The enemas were retained for hours, until taken away by hand. The bowels never acted, from the commencement of the disease to its fatal termination.

I left late in the night,—then the pulse was running down, the animal had the characteristic look which forbodes evil, and was veritably dying on her feet. An hour afterwards she broke her halter (a strong one); made a headlong rush of twelve yards to the stable door; there fell, and died without a struggle, flattening an iron bucket in her fall. The groom who was standing at the door barely escaped with his life, so sudden and unexpected was the catastrophe.

Post-mortem examination ten hours after death. Rupture of the stomach across the great curvature; the mucous membrane intensely inflamed, and the whole organ much contracted. The surface was literally covered with "bots." A quantity of the ingesta, mixed with bots, was found loose in the abdominal cavity; but no inflammation of the peritoneum was visible from the presence of these matters in the peritoneal cavity. This satisfied me that the rupture took place at the final fall, when she died. The stomach contained a large quantity of very dark coagulated blood, intermixed with a material which had the appearance of coffee-grounds; there was also a watery liquid. The latter, I think, was serum; and the other dark matter was a mixture of disintegrated blood-corpuscles, and the apices of the desquamated villi, blackened by the inflammatory process. The muscular coat of the stomach was partly involved in various degrees, and completely so at the seat of rupture, which was quite soft, pulpy, and easily broken down by the fingers; some portions would barely bear handling. No other organ was involved except the liver, which appeared slightly congested.

ON THE PATHOLOGY AND MORBID ANATOMY OF THE STOMACH.

BY THE SAME.

VETERINARY literature is very deficient in information with regard to the diseases of the stomach of the equine species, and the abnormal conditions which it may assume during the life of the animal. From the coarse, raw condition of the provender on which he is by nature designed to feed, and the ever-changing conditions of his chequered life, we may infer that his gastric power to digest edible substances is infinitely superior to that of the human race; being, as it were, an internal manifestation of that power of endurance daily exhibited by him in the performance of his duties. In the foregoing case it is evident the mare must have suffered for months from the presence of these entozoa: it being just about the time for their passage out to assume the pupa stage of existence; and when we reflect that fully three-fourths of the mucous membrane was studded with these larvæ, it becomes a matter of astonishment how the function of digestion could be carried on for such a period of time without any perceptible appearance of internal derangement. Were it possible for a single "bot" to take up its abode in the stomach of a human being, I feel no hesitation in saying that the consequences would immediately become of a very serious nature.

Then what a tremendous gastric power we have here to contemplate—a power which proves itself competent to reduce the coarsest and toughest preserved products of the field to the nutrient condition required by the first stage of digestion, and that under circumstances the most disadvantageous to its functional activity! It is a marked instance of extraordinary physiological action in the very presence of the elements of disease: ruling and swaying these elements, preserving the economy during their presence, up to the time of their final expulsion from the alimentary tract. These circumstances point to a great strength and potency in the digestive secretions. For instance, the gastric juice, which is capable of acting upon and chymifying,

with such rapidity, this rough and dry vegetation, must possess powers immeasurably superior to the same secretion in that of all other mammalia not belonging to the same natural class. The digestive process so complicated in ruminants, does not perplex so much, with its macerating compartments and double mastication (*i.e.* rumination); but when we consider the absence of these in the horse, his single and rapid mastication, together with the smallness of his stomach, which must call for great functional activity in the chymification of food, these render still more apparent the superior potency of his gastric fluid, also all the other secretions for carrying out the digestive process. However, this is a subject for research in physiological chemistry.

The natural food of the horse being the green, moist, succulent grasses of the field, he must suffer to a great extent from abnormal conditions of the stomach—conditions with which we are little acquainted—when compelled to live on a dry, preserved diet. His existence in our large towns is purely an artificial one, and its results are never known, except to the pathological anatomist, who can distinguish between the immediate cause of death and the numerous evidences of chronic disease, the result of years of improper feeding and bad management, though only indirectly connected with the immediate cause of dissolution. This mare did not exhibit any signs of Anæmia. Functional derangement of the liver, producing the yellow membranes, had taken place through perverted nervous influence, and also from the fact of the organ (*i.e.* the stomach) being one of the chylopoietic viscera which returns its blood by the portal venous system through the liver, which in itself is sufficient to account for the biliary derangement shown by the symptoms. For it is well known that inflammatory blood, passing from one organ of the body to another, is liable to involve such organ in functional derangement, and finally in structural change, should the influence be continued for a sufficient length of time. It is through this source of chronic gastric disorder, that the various abnormal conditions of the liver are found in horses which have died of other diseases that have no direct connection with it. Flatulence of the stomach, accompanied by acidity, is the bane of old horses. This is generally

caused by atony and relaxation of its walls—the result, primarily, of a deficient supply of arterial blood during the progress of digestion.

Such a condition is brought about by working the animal on a full stomach, either with a heavy load, or at a smart pace—according to his breed, should he be of the draught or the light class. Thus, by the accelerated action of the lungs and muscular organs, which require an increased amount of blood to support their activity, the stomach is deprived of the necessary arterial supply to its secreting structures for the elaboration of the gastric juice; and, as a result, the digestive fluid is both deficient in quantity and quality, and therefore unable to properly discharge its natural function. The food lies too long in the stomach, the organ is taxed beyond its capabilities, and partial fermentation takes place, with eructations of gas, and especially in those cases in which the forage is bad and innutritious. A horse suffering from this dyspeptic condition will lick with avidity the newly whitewashed walls of his stable, should the opportunity occur; the freshly hydrated lime has a sweetish taste, and should the animal indulge his propensity for antacids before it is dry, the caustic properties of this agent become disagreeably manifest by causing considerable swelling of the tongue and lips, accompanied with profuse slavering, soreness, and red inflamed condition of the lingual and buccal mucous surfaces.

The pathology of the horse's stomach is intimately connected with that of the air passages, particularly in the disease designated "*Broken Wind*,"—the true name for which, scientifically speaking, should be *Pneumo-gastric Enervation*, this being the real cause of the well-known symptoms of this disorder, which finally involves the phrenic nerve and cardiac ganglia, terminating in total paralysis and death. The *post-mortem* appearances of such cases simulate Pneumonia, or intense congestion. This is caused by the blood-vessels of both the pulmonary and bronchial circulations becoming involved in the paralysis, and thus the whole of the lung-tissue presents the appearance of congestion, or inflammation. The heart labours hard until the last; its action is intermittent; the pulsation is not discernible at any great distance from the central pump, yet on auscultation the

"*bruit de cœur*" is often loud, and more prolonged than in health. At the final close of the malady, the heart is thrown into a state of paralytic convulsive spasm, which at once terminates the patient's existence. At the present moment, as these lines are being penned, we have such a case under treatment, and which is just approaching the fatal termination above described; the sufferer being a bay gelding, twenty-three years old, which for some years past has been badly affected with *Pneumo-gastric Enervation—i.e.*, so-called "*Broken Wind*" (the latter term to us sounds meaningless in scientific nomenclature).

Medical and veterinary writers all re-echo each other in the statement that "Acute Gastritis is rarely or never met with, except from the presence of poisons." With this we can by no means agree: in short, the statement is incorrect. The semiology of this disease appears to be altogether unknown, so far as veterinary works are concerned. Professor Dick has made the best attempt; but it is almost valueless, and consists merely of a few generalities, as much of an enteric as a gastric character, none of which are in the least diagnostic of this condition. I much doubt whether any one who has yet written on the subject in the horse has ever met with a pure case: they are so very rare. Corrosive poisons, unless given in such large doses as to cause almost immediate death, always produce the complication known as Gastro-enteritis, and in no instance do they produce Acute Gastritis alone. In all known records of cases of death from these agents, some portion of the poison always had time to find its way into the small intestines, causing enteric lesions; and by this means the symptoms of true and uncomplicated Gastritis were always masked by those of Enteritis. Ninety-nine practitioners out of every hundred, at the lowest computation, pass their whole lives without ever meeting with a pure case of this disease; and consequently the veterinary world, so far as our records are concerned, seems to be entirely deficient in the knowledge of the true unsophisticated symptoms of this malady.

I hold, as a fixed principle, that this lesion, singly, can only be produced by mechanical means: as from the presence of

entozoa, seen in the description of the foregoing case, or the introduction of a foreign body or bodies acting as a mechanical irritant, which, from their size or character, cannot be voided by vomition, nor pass through the pylorus into the duodenum—a practical instance of which I shall record in the course of this treatise. It is astonishing to think that such a formidable disease, involving one of the most important organs of the whole body, should be passed over by a few simple scrapes of the pen; for it has been truly said by the best physicians, that could we but keep the stomach right, we should not die from anything but old age or natural bodily decay. It will be seen in the case here recorded, that the symptoms were at first of a rather negative character, and might have still progressed unnoticed, but for the absence of appetite, which alarmed the driver, and was the means of procuring medical aid; although the owners had not the slightest idea that the animal was in any danger until a professional examination announced to them the fact. I would call the attention of the profession to two particular symptoms here recorded—viz., the absence of any attempt at micturition or defecation, and the fact of stimulating enemas being retained for hours, until removed by the same means by which they were injected. To some this may signify but little or nothing, but to us it was fraught with deep meaning. It might in some minds create suspicions of volvulus, introsusception, or impaction, but in these cases such phenomena really never occur. These symptoms to us were purely diagnostic, and most conclusive evidence of acute inflammation of the stomach, and of the presence of considerable pain in that viscus. Our reasons for thus thinking were as follows:—When the animal wishes to perform either of the acts of defecation or urination, he stretches himself out, and takes a deep inspiration; this inflates the lungs to their utmost capacity, thereby forcing back the diaphragm, which exerts a most powerful pressure on the stomach, and at once propels the whole abdominal viscera on the bladder and contents of the pelvis. By this means compression is applied to the fundus of the organ, overcoming the resistance of the sphincter vesicæ. After the act is once begun, the muscular fibres of the viscus, with but little aid from the viscera in front, complete its per-

formance. The expulsion of the contents of the rectum, we know, is brought about in a similar manner. This mare was afraid to perform either of these acts, through the agonizing pain which the pressure of the diaphragm against the highly inflamed stomach caused her in endeavouring to force back the rest of the bowels; therefore, after a few slight attempts in the early part of the disease, she relinquished all further efforts at accomplishing either of these acts: preferring to suffer a lesser degree of pain from a distended bladder than the terrible agony which its evacuation entailed. In this way we partially account for the non-expulsion of the enemata, and wholly for having several times to insert the catheter. We, then, consider these symptoms as eminently diagnostic of Acute Gastritis, especially in such a case as is here referred to, in which the pain and inflammation must have been severely aggravated by the irritating effects of the tentacula of the numerous "bots" found clinging to the mucous membrane. We here refer the reader to a statement in *Percivall's Lectures,* in the article on "bots," where we are informed that on some parts of the Continent, so far from bots being considered injurious, many persons thought horses thrived better for their presence, and actually administered them to their animals for that purpose. Let us look on this picture, then on the foregoing, and marvel at such absurdities.

I must again allude to another symptom of great importance to the pathologist: that is, the regular undulatory movements of the œsophagus, which was never for one moment at rest during the last twelve hours of the patient's existence; and which continued with such uniformity of character as to simulate the appearance of the jerks seen in tricuspid insufficiency of the valves of the heart; as well as the immediate return, *per nares,* of everything administered to the animal, without the slightest attempt at favouring the act by any other physical co-operation, as is seen in all creatures in true vomition. This mare did not even poke out her nose, nor lower her head from the ordinary position, when liquids, etc., were ejected from the nostrils. This, then, was not true vomition, but the presence of violent and continuous antiperistaltis of the whole alimentary tract, from pharynx to rectum: the rhythmical movements of the œsophagus, for

twelve hours before death, being typical of that which was taking place in the stomach and along the whole intestinal tube. It will now be seen that the absence of alvine evacuations during the course of the disorder are accounted for on strong grounds; as in the presence of such violent antiperistaltis, defecation, or the expulsion of the enemata, becomes an impossibility. This would also, in some trifling degree, indispose to micturition.

I am not aware that these symptoms, or any explanation of the pathological conditions of Acute Gastritis, of which they are pathognomonic, have ever been enunciated before.

(*To be continued.*)

"BOTS" (*ŒSTRUS EQUI*) OBSTRUCTING THE DUODENUM OF A HORSE.

BY S. G. GOING, M.R.C.V.S., 1ST U.S. CAVALRY, CALIFORNIA, U.S.A.

NEVER having seen a case similar to the following, I venture to record it, trusting it may be interesting to some of the readers of the *Veterinary Journal.*

For some weeks, a six-year-old horse belonging to C and D Companies, 1st U.S. Cavalry, was noticed in an unthrifty condition; he ate little, his coat stared, and he appeared languid. On the 28th February he was reported to me, and I found him as described. He exhibited marked signs of thirst. I considered it a case of indigestion, and treated him accordingly. No change was noticed for three days, when he showed signs of Colic. I gave him the following draught:—

R. Tinct. Opii	.	.	℥iss.
Spts. Nit. Ether	.	.	℥iss.
Ol. Lini.	.	.	℥xx.

This relieved him for the time, but in some hours he was as bad as ever. I gave some more of the same medicines; administered enemas, which were retained but a short time; a large quantity of mucus came away, but no fæces. I introduced the catheter—in fact, the usual treatment for Colic was resorted to.

He continued in this way for two days, when some semi-fluid fæces were passed. I now considered it a case of Muco-Enteritis. The above treatment was varied but little; Aconite was substituted for Opium. Some Aromatic Spt. Ammonia was given in oil. He got 25 oz. of oil in all. He ate nothing during his illness, but drank with apparent relish.

The pulse was small, hard, and much accelerated; coldness pervaded the whole body; and great force was applied against my hand when introduced into the rectum.

Prognosis—Unfavourable. I believed there was an obstruction in one of the intestines.

On the sixth day after being admitted into hospital he died.

Autopsy.—The whole intestinal tube was slightly inflamed, but not sufficiently so to cause death. The colon was filled with semi-fluid fæces, immediately behind which were some dry excreta. The stomach was distended with food—which surprised me, as the animal had not eaten for days. On opening it, a disagreeable sour smell was emitted, and the mucous coat peeled off with the contents. About four inches of the duodenum was much hardened; on cutting down on it, without exaggeration, hundreds of bots were found attached to its walls: indeed, so closely were they packed that you could not pass a pen-handle through the gut without removing some of them, or penetrating their bodies. The contents of the stomach could not possibly pass by them. There were only three or four bots in the stomach, which organ was not at all inflamed.

The liver was enlarged; on being cut into, it was of a yellowish colour, and bile dropped from the ducts. This condition was no doubt caused by the bots preventing the passage of bile from the main duct. I did not detect, during life, any symptoms of liver disease.

I am of opinion the horse died from inanition, and irritative fever.

Some may suppose I should have given, in the first instance, a dose of aloes; but the action of that drug in this country is so uncertain that I never use it. I have given three ounces to a horse, without producing purgation.

I may here mention, that in such cases as the above, the death

of the animal is "laid at the door" of the veterinary surgeon; as in this region the profession is, I may say, in an unborn state. In the city of San Francisco, two miles from here (Benicia Barracks),—a city of 150,000 inhabitants—there is only one qualified veterinary surgeon; though there are dozens of "quacks."

In stating that the veterinary surgeon is blamed in such cases as the one recorded, I refer to practice in civil life.

NAVICULARTHRITIS.

BY T. D. BROAD, M.R.C.V.S., BATH.

LAST year I was requested to go a distance of forty miles to examine a horse which had been regularly hunted for a month after purchase, when he suddenly became lame, and was examined by a practitioner, not a M.R.C.V.S., who certified that the cause of lameness was chronic navicular disease in the off fore-foot; and as the horse had been passed as sound at the time of purchase by a young veterinary surgeon, it was alleged that he had shown a want of skill, or negligence, in not having detected the lameness; consequently law proceedings were commenced against him. After examining the horse, I gave an opinion that he was lame from chronic navicular disease of the foot, but that at the time of purchase he may not have shown the slightest symptom of lameness, as there was no altered structure, or difference in the appearance of that foot from the other; consequently there were no grounds for alleging negligence or unskilfulness, and that opinion prevented further law proceedings, which the veterinary surgeon will probably be unaware of until he reads this.

I may ask what practitioner of any experience has not had similar cases of lameness brought under his notice after his own examinations. The ordinary course taken when horses become lame from navicular disease,—especially if they are considered valuable,—is to allow a long rest before being offered for sale, which will often render them free from lameness for several weeks, even in chronic incurable cases.

EMBOLISM.

BY THE SAME.

MARCH 6th, 1876.—A well-bred seven-year-old chesnut gelding, the property of L. Daubeny, Esq., of Shockerwick, Bath, and used by him for the last two years as a carriage-horse, was brought to me, with a statement that he was stiff across the loins, and could not micturate properly. I gave him some laxative and fever medicine for a few days, and he appeared to recover; and was worked in double harness as far as Bath—a distance of five miles—on the 16th, and again on the 19th. On the 21st I was requested to attend him, when I found that there was a rigidity and loss of power in the near hind-leg; but I could not detect any heat or other symptom to indicate the seat or nature of the disease. I left more medicine, and placed him in a loose box.

April 5th.—The loss of power has been gradually increasing, and the off hind-leg is becoming swollen and painful, from bearing an undue weight on it. Previously I had all the shoes taken off and the horse was now placed in slings.

16th.—Both hind-legs and prepuce have been swelling since the 11th, and are now of an immense size, though the temperature is moderate; the skin of the near heel cracked and slightly ulcerated; the muscles of the near loin and quarter are becoming much atrophied; the foot is occasionally put to the ground to bear slightly.

On seeing these symptoms, I gave an opinion that it was a case of Embolism, probably of the iliac arteries. The horse was kept in the slings, but lowered daily to allow him to lie down on a good bed of straw without moving him out of the slings; when he became restless he was drawn up on to his feet again. The swelling of the legs and prepuce became entirely absorbed in from two or three weeks, and these remained free for about a week; after which they began to swell again, but not to the same extent.

May 29th.—He was now ordered to be shot, which would have

been done long before had it not been that he was a great favourite of the owner's wife.

On making a *post-mortem* examination I found the near side external and internal iliac arteries, also the femoral extending down to the tibial, completely plugged, and in several places the plug had degenerated into pus and caused the formation of abscesses. The hip joint, externally and internally, was greatly diseased, and the bones much softened.

DEPOSIT OF EARTHY SALTS IN THE INTESTINE.

BY THE SAME.

DEC. 21st.—I was called by Rev. F. T. Woodman, of Nettleton Rectory, Chippenham, to attend a six-year-old brown gelding which had been purchased a month previously, and had that morning been driven in a carriage by the side of another horse into Bath —fifteen miles. After being taken out of harness he had refused his feed, and lay down, evincing symptoms of abdominal pain An ordinary colic draught was given, which soon relieved him, and the owner intended driving him home in the afternoon; but a few minutes before the time of starting the horse became uneasy, and was brought to my stables, where he continued to show more or less pain until the following evening, when I wrote to the owner, stating that I was of opinion the horse was suffering from intestinal calculus.

My treatment consisted principally in the administering of oil and enemas, which produced purging on the 23rd, and the removal of all symptoms of pain.

The horse commenced to feed moderately, but on the following day there was a return of the former symptoms, which continued to increase gradually in severity until the 29th, when he died. On making a *post-mortem* examination, I found the entire length and calibre of the cæcum to be a solid mass, with the exception of an opening an inch wide in the centre. On cutting through this mass it was found to be of a yellow colour and firm consistency, showing that the deposition had been going on for some time.

ARMY VETERINARY SURGEONS.

BY "A VETERINARY SURGEON."

IN the May number of the *Veterinary Journal*, the opinion was expressed that the young army veterinary surgeon could not live on less than £250 a year, or fourteen shillings a day; and that any less sum would still leave him in a false and humiliating position. In saying this there is no exaggeration, but, on the contrary, the case is understated, and the above sum would have to be carefully managed in order to sustain creditably and properly the position of the veterinary officer.

The present pay of the veterinary surgeon on joining, and for the first five years, is ten shillings a day, after which there is the small increase of one and sixpence, making the pay eleven and sixpence a day. Those who have had to experience it know what living in the army on such a sum means, without additional private income. It is simply a state of genteel poverty, and often subjects the sufferer to expedients to make both ends meet which are quite out of place.

If the veterinary officer is debarred by insufficient means from living at mess, he will have very many lonely and most wearisome evenings in his barrack-room; and his dinner, which must of necessity consist of some simple and inexpensive dish, will not take him long to discuss in solitary bitterness.

The mess dinner-hour is usually at half-past seven, and is by officers looked forward to as the great social meal of the day, when all can meet in enjoyable companionship. The unfortunate, then, who cannot afford to dine at mess, is debarred from the most pleasant and instructive part of the society of his brother officers, and not only suffers in his comforts, but endures a humiliation of spirit which is hard to bear, and which exposes him to the by no means flattering comments of the men on his singular position.

No officer is obliged to breakfast or lunch at mess; but the dinner is a parade, and all officers can be compelled to attend it, as a rule, by the commanding officer, who indeed has the power of ordering an officer to dine at mess every night. The im-

portance attached to the regular attendance of young officers at the mess dinner by the authorities, is shown by the fact that they are often remonstrated with by commanding officers for being away, and are sometimes ordered to attend; as too frequent absence is, for many reasons, deemed unadvisable. If this be so important to the other branches of the service, it is at least as much so to the young veterinary officer, who, too often cut off from it by want of means, is, as said before, very frequently condemned to wearisome and solitary evenings in his barrack-room, or is compelled to seek associations which may not be desirable elsewhere.

In the event of any unification scheme being considered, this very important matter, bearing so weightily, as it does, on the conduct and welfare of the young veterinary officer, would be well worthy of attention. If left as belonging to no particular corps, or as a kind of nobody's child, the consequences may be imagined: he would, so to speak, have no home; his position would be more solitary than ever; and he would, in all probability, be thrown still more than at present on his own resources. It may be said that such is not the case with medical officers, although on this point there is great difference of opinion; but it can readily be shown that the position of the veterinary officer would be much more isolated.

Veterinary medicine being a scientific profession, its study is every day becoming more developed, and its educational demands more extended. Its thorough acquirement is difficult and very costly, and it is therefore evident that, if veterinary officers are so paid that they cannot live properly, the best men will hold aloof, and the service must suffer severely from their absence.

DISEASE OF THE LIVER IN A COW.

BY MESSRS. NELSON AND FLETCHER, V.SS., SHEFFIELD.

UNDER date of May 8th, we received the following communication from the above named gentleman :—

"We were asked to inspect the body of a cow which died during the night of May 6th, and on examination we found in the abdomen a large body weighing some *fourteen stones*, which proved to be the liver greatly distended with effused and partly disorganised blood. We are at present ignorant of the history of the case, but will send it by the next post. A portion of the altered liver, with some of the effusion attached, we have sent to you this evening.

Another communication of May 10th says :—"The history of the cow, a portion of whose liver we sent you, is, as far as we can learn, as follows :—The cow was bought in August, and calved in the railway truck on the way from market. A few days after, she was suffering from some slight impaction of the rumen, etc., which was removed by treatment. But from that time she suffered more or less from indigestion, particularly after eating turnips or meal. In the middle of December she was given alterative doses of sulphate of magnesia and tonics; but the treatment was not continued. The diagnosis was obscure, though some suspicion of heart disease was entertained. From this time she gradually became weaker and more emaciated, until, on May 4th, she was unable to rise. Some gruel and spice given by the owner so far roused her as to enable her to stand ; but on the morning of the 7th she was found dead in her stall. We should be much obliged if you would favour us with your opinion as to the state of the liver."

The morbid specimen alluded to was examined by our friend Professor Duguid, of the Brown Institute, who reports : "I consider this a well-marked case of malignant growth ; but whether this is the primary tumour or a secondary deposit, I cannot say. If you examine a scraping from the freshly-cut surface of the more solid portion, you will find groups of the spindle-shaped cells so characteristic of some forms of sarcoma. On the other

hand, if you snip off a fragment from the softer and gelatinous-looking portions, which at first sight almost appear like blood-clot, you will find that red blood-corpuscles are to be found in groups in the meshes of the structure, but large and irregularly-granular cells predominate. The peculiar character of the cells distinctly proves that it is a new growth invading the structure of the liver."

Messrs. Nelson and Fletcher being asked if they had any further information to give us in this interesting case, reply: "We have nothing to add excepting that there was an entire absence of any symptoms that indicated disease of the liver; and as we so frequently meet with such masses of disease in the liver of fat beasts which have been slaughtered for food, without any indication of disease during life, we should look upon any remarks from you (appended to the report) on the diagnosis of disease of the liver, as a great favour."

We are sorry that we cannot afford any information that might assist in the diagnosis of such diseases of the liver as that so obligingly described by our correspondents. Chronic affections, and alterations in the structure of this important gland, are not always accompanied by pathognomonic symptoms; and indeed generally, with the exception of similar changes in the ordinary habits of the animal to those mentioned in this instance, all the indications are of a negative character, even when most startling structural modifications have occurred in the organ. In this respect, as in so many others, the veterinary surgeon is not so advantageously situated as the surgeon with regard to a physical examination; as in the larger domesticated animals percussion and palpation very rarely yield any positive results. In this case, owing to the vastly increased volume of the liver, percussion might have led to a suspicion of the state of affairs; but unless there is a very considerable augmentation in size, the proximity of the posterior part to the colon is an obstacle to this method of investigation. In the same way palpation or pressure is only valuable when the liver is so enlarged that it extends behind the ribs, and is more sensitive than usual. Deranged digestion, loss of appetite, obstinate constipation, colic, tympanitis, light-coloured fæces,

an icteric tint of the mucous membranes, rapid emaciation and increasing debility, are all or partly present in the great majority of cases in which we have chronic disease of the liver. With acute disease of the organ, the symptoms are more pronounced and reliable.

IS GLANDERS TUBERCULOSIS?*

BY GEORGE FLEMING, ROYAL ENGINEERS.

FEW diseases of animals have attracted a larger share of attention, in remote as well as in recent times, than that which is commonly known as the "Glanders" of solipeds—the μάλις, μάλεος, or φαχινα of the Greek hippiatrists, and *Malleus humidus*, *Morbus humidus*, and *Farcimina* of the Roman writers. The ancient Greek veterinarians who first described the malady, distinguished it as a particular disorder of the horse; and the Roman veterinarians and naturalists, who borrowed much of their knowledge of animal nature, and animal pathology from the more refined and civilized Greeks—their inferiors in war—also recognised it as an affection peculiar to the equine and asinine species. But from their times up to the present, widely different views have prevailed, and still prevail, as to the nature of the malady; these views being all the more unreasonable and grotesque as the sciences of anatomy and pathology were little advanced, and the imagination had to invent what the absence of facts did not supply. Thus it was that Vegetius thought Glanders was due to the absence of a gall-bladder in the horse, and consequently that the bile passed all through the body, but more especially towards the spinal cord, whence it flowed by means of a nerve to the brain, which it altered and softened; and that it was this liquefied cerebral tissue which, escaping by the nostrils, constituted the peculiar nasal discharge of Glanders.

It would take us beyond our province were we to attempt to discuss at any length the opinions which have been held as

* Read before the Central Veterinary Medical Society on June 1st, 1876.

to the nature of Glanders, during the course of centuries intervening between the Roman writer just quoted and the days of Solleysel, who, towards the end of the seventeenth century, imagined the disease to be allied to Catarrh, and as "caused and fermented by an ulcer in the lungs, which consumed those organs and at length killed the horse," the acrid and corrosive humour proceeding from the lungs, liver, and spleen. When we come to Lafosse, in the middle of the last century, we begin to reach more satisfactory ground, and have occasion to note a desire to gain correct notions of the affection by *post-mortem* investigation. Nevertheless, we find that the researches of Lafosse could lead him no further than that Glanders was always due to a great inflammation of the pituitary membrane, and that this inflammation could be produced by the injection of corrosive fluids up the nostril—that, in fact, Glanders was a local inflammation of this membrane. Lafosse's opinion was adopted by no less an authority than the illustrious Buffon, who, strange to say, thought the inflammation was induced through the horse plunging its head into cold water when drinking, and thus chilling the membrane—an error borrowed, we may suppose, from Pliny. Lafosse the younger adopted his father's views, elaborating and adding to them, though with no great advantage to medical science. He contended that Glanders was purely local, and confined to the head; the lungs only participating when pulmonic disease happened to supervene during its existence.

Gibson, in 1745, pronounced Glanders to consist in "a malignant ulcer formed in the inside of the nose of the horse, generally accompanied by a swelling of the kernels under the jaws." The most common and usual kind of Glanders, he adds, proceeds from "a bad disposition in the blood, which, perhaps, continuing for a considerable time unperceived, at last shows itself by a swelling of the glands under the jaw-bones, and a running at the nose, without any other sign of sickness or disease. This is what properly constitutes the Glanders in the horse, and is either of the *scrophulous* kind, the same with the Evil (King's), or else cancerous; both of which I have met in practice, and may be either hereditary, or the effect of hard

labour and bad keeping." There can be no doubt whatever that Gibson entertained far juster views of the pathology of Glanders, and especially with regard to its contagiousness, than any of his predecessors or contemporaries; and that he was, in this respect, half a century ahead of his time. He is the first writer who mentions Glanders as related to Scrofula.

According to Bourgelat, Glanders was due to a corruption of the blood and humours, and there was a great analogy between it and human Syphilis. This analogy was adopted by Paulet, and since his day by several veterinarians and physicians. Bourgelat opposed Lafosse's notion as to the nature of the disease, and this opposition was subsequently maintained by Chabert, Huzard, Sind, Gilbert, Kersting, Waldinger, Blaine, Viborg, Abilgaard, Coleman, and others; though the localisation theory was upheld by St. Bel and one or two more authorities of this early period in the history of modern veterinary science. Coleman recognised the whole mass of the blood as contaminated.

In 1817, Dupuy, the first Director of the Toulouse Veterinary School, saw nothing more in Glanders—as in almost every other malady—than a tuberculous diathesis. The principal diseases of not only horses, but also dogs, cats, cattle, monkeys, as well as fowls, were due to tubercles; and he grouped them all under the heading of "tuberculous affection." Strangles, Pseudo-strangles, Farcy, Grease, and Ophthalmia, were the results of the tuberculous affection.

So long as the tubercles were undeveloped, and in small number, they caused but little disturbance in the function of the part in which they were located; so that the affection might remain latent for a long time—even for years. But when the tuberculous tissue became softened and degenerated, and ulceration took place, then Glanders became apparent. Farcy-buds were nothing more than scrofulous tubercles: they grew, developed and declined, the same as pulmonary tubercles. Glanders, therefore, according to Dupuy, bore the closest analogy to Phthisis in mankind. The Phthisis of the pituitary membrane would sometimes become cancerous; at other times it had been known to become typhoid.

We thus find that Dupuy held the same opinion with regard to the nature of Glanders that Gibson, more than half a century before, had done. But Dupuy denied all relationship between Acute and Chronic Glanders. The former, he thought, bore much resemblance to Sheep-pox, which again was related to human Variola. Acute Glanders was essentially an eruptive disease, while the chronic form was caused by tubercles; the former had many analogies with the Cattle-plague, which he has written a book to prove was variolous in its nature.

One of Dupuy's pupils, Philippe, carried the tuberculous theory somewhat further. He assures us that the lungs of the horses destroyed for Glanders are always filled with miliary tubercles—Glanders being simply a consequence of their presence. The nasal lesions are merely accessory, and much less serious than those of the lungs.

Rodet, another Director of the Toulouse School, adopted Dupuy's theory, though he modified it in certain important respects. Accepting the notion that tubercles were really the special cause of Glanders, he asserted the constitutional origin of these, and maintained that this malady was always consecutive to others.

The tubercular nature of Glanders was accepted also by Will, Dieterichs, Verheyen, Hugues, Mandel, and others; but it was opposed by D'Arboval. Professor Sewell agreed with Dupuy, that miliary tubercles constitute the original disease; that these suppurate and form abscesses in the lungs, the contents of which are discharged through the nose, and thus constitute Glanders. He asserted that in the early stage, even when the lungs were tuberculous, many horses were recoverable. Mr. Spooner, of Southampton, editor of White's "Veterinary Medicine," dissents from Dupuy's views, and states that "although perhaps in the majority of cases tubercles are found in the lungs of glandered horses, yet instances occur in which there are none to be found there or elsewhere."

Blaine believed in the specific nature of the disease, which, "for variety in its mode of production, continuation, and termination, has no parallel; and to which only we can attribute the unsettled state of the opinions concerning it, but which do

nothing to unsettle its claim to the character of a direct and peculiar poison which can always beget its like, and its like only."

Percivall says: "Whether the pulmonary glanderous tubercle is to be regarded as no more in its nature than a Farcy-bud, and whether the pulmonary tubercle of Glanders bears any, and how much, analogy to the tubercle of *Phthisis pulmonalis*, are questions not so easily solved. . . . I feel disposed to think that the production which is taken for and called a pulmonary *tubercle* in Glanders or Farcy, but which may turn out to be nothing but a portion of diseased lymphatic, must be a different thing from *veritable tubercle* of the lung, concerning which such various opinions have at one time and another prevailed among human pathologists. . . . That the purulent matter contained in the suppurated pulmonary tubercle of a glandered horse will, through inoculation, produce the same disease in another horse, admits no longer of doubt; yet no one, I imagine, will assert that the Glanders or Farcy is producible by matter taken from a vomica in the lungs of a horse that has died of Phthisis, or any other ordinary pulmonary disease. This fact may not of itself be sufficient to prove one so-called *tubercle* in the lungs to be different from another; weighed, however, with what has been before advanced, we think it strengthens our opinion that the pulmonary tubercle of Glanders, and that of Pneumonia or Phthisis, are substantially different productions."

At a period nearer our own, Glanders has been regarded by some authorities as due to Pyæmia or Septikæmia, and by others, again, as diphtheritic in its nature. It has been thought that it could be produced by inoculation or injection into the veins of scrofulous material, or even irritating substances, while some have believed that its lesions were to be attributed to embolic infarction. Virchow, from a careful consideration of the malady, concluded that it belongs to the class of granulation tumours, or connective-tissue neoplasies; and Professor Leisering, of the Dresden Veterinary School, has amply confirmed this opinion by subsequent researches. Cornil and Rauvier consider the nodules so closely allied to tubercular granulations, as to assert that it is impossible to make any distinction between them;

while Villemin maintains that Glanders bears the closest relationship to Tuberculosis, not only in its anatomy, but also in its origin and course.

We have thus far glanced rapidly over some of the opinions held at various times with regard to the nature of Glanders, with the view of showing that nothing definite has been established; and that since the days of Gibson, but more particularly those of Dupuy, the tendency has been mainly to look upon it as a scrofulous or tuberculous malady.

Now to this view there are insuperable objections. In the first place, there are certain of the domesticated animals which appear to be strangely exempted from Tuberculosis—the horse, dog, and sheep, for instance. But of these creatures, the one which is favoured with the greatest immunity is perhaps the horse. In all my experience, I cannot call to mind more than two cases of what appeared to me to be Tuberculosis in this animal; and I am sorry to say that on active service in the field I have had, I might safely declare, hundreds of cases of Glanders.

If we think but for a moment of the train of symptoms which mark the existence of Tuberculosis in those animals which are most frequently attacked by it, and those signs which betray the presence—say of Acute Glanders—in solipeds, we shall satisfy ourselves that even here the two diseases are markedly differentiated. These signs and symptoms I need not refer to in detail, as they are well known. Take Tuberculosis in the cow, and Glanders in the horse, and we shall see at once that their symptomatology marks them as distinct maladies.

If we wish to put the question to an experimental test, let us resort to inoculation; and for this purpose we will select from many creatures one or two which are readily susceptible to the action of the virus of both maladies—I refer to the rabbit and goat. If we take tubercular matter from a man or a cow, and inoculate either of these animals, we have generalised Miliary Tuberculosis, but never Glanders, produced; if we inoculate them with Glander virus, we have Glanders as the result, but never Tuberculosis. Surely this is sufficient to establish a wide distinction between the diseases, and prove their non-identity.

If they were identical, we should have either disease produced from either virus indifferently.

But it must be confessed that, to the superficial observer, the pathological anatomy of Chronic Glanders and Tuberculosis is very similar, if not altogether the same, in both diseases. But it is not so, if we care to examine the diseased textures more closely. We find that the fundamental and essential element of Glanders —found in the ulcer, pulmonary nodule, and peculiar infiltration which mark the disease, as well as in the pseudo-cicatrix that shows an attempt at repair—is a neoplasy due to a proliferation of the connective tissue. This Glander neoplasy, or corpuscle, is a cell not very different from that of ordinary connective tissue, resembling somewhat the cancer neoplasy in having a cancer nucleus; while at the same time it partakes of the character of a pus-globule. This cell varies in size with the degree of virulence of the disease—in Chronic Glanders being larger, and having a tendency to collect in nodules and become encysted, as it were; while in Acute Glanders it remains small, and more of a pus-globule. In Tuberculosis, the essential element appears to be the giant cell.

The histo-pathology of Glanders has formed the subject of careful research by several of the most eminent Continental veterinarians; but we cannot refer to those here, and I will content myself with alluding to the latest investigations, made by Renaut, at the instigation of M. Bouley, Inspector of the French Veterinary Schools, as tending to prove what we have advanced with regard to the specific individuality of Glanders and Tuberculosis.

From the lungs of a horse which had been suffering from Acute Glanders and was killed, portions which we have designated Glander-nodules were removed. These were prepared in a manner which we need not here allude to, and then, when examined with a low magnifying power, the entire lesion appeared to be constituted of a yellow opaque central portion in the fresh state, but of a bright-red colour when submitted to a particular re-agent; this was composed of more or less numerous grains, usually collected in a racemose form, and frequently grouped around a small-sized bronchus. These grains are formed by

embryonal cells which completely fill the pulmonary alveoli; and differ in no respect from the spots in purulent lobular Pneumonia so frequently met with, and so similar in appearance in the lungs of man in Pyæmia. The purulent grains are surrounded by a translucent zone, constituted by a hæmorrhagic layer. The pulmonary alveoli are filled with blood that, in the vicinity of the purulent grains, is undergoing a series of retrogressive metamorphoses in which the fibrine has become granular. Lastly, quite at the periphery of the lesion are evidences of recent hæmorrhage, in the neighbourhood of or among which are seen the dilated, sinuous, pulmonary vessels. At the circumference of the Glander-nodule thus constituted, the pulmonary parenchyma is absolutely healthy. It is the same with the pleura, even in the by no means rare cases in which the lesion just mentioned is immediately subjacent.

The embryonal cells which form the purulent-pneumonia centres, differ vastly from the cellular elements of the tubercular granulations, by being cells in full activity. In treating the central portion of several Glander-nodules with alcohol, the elements could be readily isolated; not only was their nucleus highly coloured by carmine, but in the majority of instances it exhibited the characteristics of the proliferating nuclei of the active lymphatic cells lately described by Ranvier.

The characters just enumerated belong to the latest pulmonary lesions of Glanders. When they are older, these lesions become modified; the centre of the nodules undergoes fatty degeneration, and the active cellular elements perish, and are transformed into true pus. Ordinarily, this pus soon concretes, and forms, with the hæmorrhagic zone surrounding it, a veritable caseous centre. This centre becomes softened, or slowly atrophies; so that in Chronic Glanders there is found, instead of the Glander-nodules, the remains of the hæmorrhage, or the concreted pus in the midst of fibrous bands, or those formed of gelatinous connective and embryonal tissue. At the same time the lung is affected with chronic inflammation, and points of sclerosis are regularly developed around the bronchioles, and accidentally in the portions of the pulmonary parenchyma in the neighbourhood of the transformed nodule. The latter lesions do not differ

in any respect from those occasioned by a foreign body in the lungs, and do not appear to be at all characteristic of Glanders.

The Glander-nodules of the mucous membranes (those of the skin were prepared for examination in the same way as those of the lung) have a great analogy to the nodules in the lungs. They are granulations produced by an acute inflammation, occurring in points, and accompanied by hæmorrhage, probably due to the concomitant softening of the vessels. Around these nodules (Farcy-buds), the mucous membrane is affected with considerable diffuse inflammation, as well as the subcutaneous panniculus. After a certain time, all these parts are invaded by very fine elements, to all appearance produced under the influence of the activity of the cells infiltrated in the tissues; but the lesion soon remains stationary, or becomes caseified. Then are observed phenomena of an inflammatory character, involving the blood-vessels and lymphatics. The arterioles are affected with chronic inflammation, and their calibre is considerably diminished, owing to endo-arteritis.

Consequently, the penetration of blood to the lesion becomes difficult, and this entirely undergoes a kind of disintegration, the result of which is an ulcer—the Farcy chancre—which ultimately does not differ from other atonic ulcers. At the same time, the lymphatic "cords" appear, as well as adenites. Anatomically, the latter do not differ from chronic caseous adenites; though they, nevertheless, appear to be accompanied by hæmorrhages, like the other Glander inflammations. For a certain number of lymphatic cells of the caseous glands which constitute the "gland" of the disease, contain blood pigment in notable quantity.

With regard to the "Farcy-bud" and its subsequent chancre, these do not differ fundamentally from the nodules and chancres of the mucous membrane.

It will be seen from what has been said, that if Glanders offers, in its lesions, analogies with Tuberculosis, these analogies are at least very remote. Purulent infection comes nearer to Glanders; and from an anatomical point of view, Pyæmia, Glanders, Tuberculosis, and Syphilis, form a natural group. All these infectious diseases have, as a common anatomical character, the production

of inflammations in a nodular form, and offer a marked tendency to caseification; while all appear to derive their origin from the impregnation of the economy by a more or less appreciable virulent agent. This community of origin, rendered still more striking by the singular analogy in the anatomical lesions they determine, is not the least interesting point in their history.

Nevertheless, in view of the requirements of science at the present time, and also of the issues involved in correct pathological differentiation, it is absolutely necessary that we should guard against being led astray by analogies in appearance or in origin of such important maladies, widely different as they are in other respects.

Glanders, though to some extent resembling Tuberculosis in one or two of its features, is yet so dissimilar, as a whole, that we are warranted in declaring it to be a specifically different disorder. We have Glanders—a very common malady—affecting the horse, but no trace of true Tuberculosis can be discovered; while we have Tuberculosis—an exceedingly rare disease in this animal—without any Glander complications.

Tuberculosis, again, is a frequent affection in the bovine and some other species—even in mankind; and yet Glanders never appears in these, unless transmitted from the equine or asinine species. Indeed, Tuberculosis is quite common in the cow, and yet no instance of transmission of Glanders, either naturally or experimentally, is on record with regard to this animal; it is proof against the contagium.

CATTLE-PLAGUE IN CHINA.

In the April number of the *Veterinary Journal*, we published an interesting communication from Mr. Keele on "Rinderpest in China," in which mention was made of certain morbid parts having been sent to this country for examination, with the view of ascertaining whether or not the destructive disease among cattle at Shanghai was the same malady as that which is known as "Cattle-plague" in Europe. In order to prove the identity of

the two diseases (which, from personal experience, we never doubted), we have much pleasure in publishing the following report from Professor Gamgee, for a copy of which we are again indebted to Mr. Keele:—

"On the 25th of September, 1873, I had an opportunity of inspecting, in the presence of Mr. O. R. Keele and Professor Duguid, specimens contained in jars, and received from Shanghai, which had been prepared by Dr. Edward Henderson, Medical Officer of Health to the Municipal Council of Shanghai. These specimens were derived from cattle said to have died of Rinderpest between March and October, 1872. They consisted in:

1. Portions of the gum (ulcerated).
2. Papillated mucous membrane of the roof of the mouth.
3. Portions of the mucous membrane of the roof of the mouth.
4. Portion of the fourth stomach.
5. Mucous membrane of the rectum, with marked discoloration of the longitudinal folds.
6. Papillæ of tongue (dried).*
7. Peyer's patches (dried).*
8 and 9. Solitary glands.
10. Portion of peritoneum, showing blood extravasation in subserous tissue.
11. Larynx.
12. Croupous exudation in trachea.
13. False membrane stripped from trachea.

The ulceration of the gum, erosions and exudations between and on the papillæ of the cheek, together with three distinct and circumscribed ulcers on the roof of the mouth, are each and all lesions such as occur in Steppe Murrain. A portion of the mucous membrane of the fourth stomach presents two small and characteristic ulcers, in the centre of which the membrane is completely destroyed. The solitary glands, which have evidently been the seat of erosions, have been dried up, but the discolorations of the longitudinal rugæ of the rectal mucous membrane, taken together with the appearance of the mouth and fourth stomach, may be viewed as a striking combination of Rinderpest lesions. The larynx is the seat of erosion on the epiglottis, and

* The spirit had evaporated from the specimens noted as "dried."

at the origin of the trachea; at this part there is the appearance of infiltrated tissue, usually of a deep red and blood-stained hue, in Cattle-plague; and Mr. Keele states this to have been the aspect of the parts when fresh. A portion of the trachea, including in all five rings, is much shrivelled, but its mucous membrane on the inferior surface is thickened by deposits of great firmness. In the same jar with the trachea are two pieces of exudation or false membrane of a very tenacious character, which have been stripped from the tracheal membrane. They are analogous to similar deposits described by me in Rinderpest. One measures nearly seven inches in length, and is over one inch at its widest part. The other is about three inches long and one inch broad.

"In addition to the examination of the above-named specimens, I have read a 'Memorandum on Steppe Murrain in Shanghai, by Dr. Henderson.'* The disease, as described by Dr. Henderson, could only have been Rinderpest. The period of incubation, under ten days; the average duration of the malady, not more than four days; the redness and superficial ulcerations of the vaginal mucous membrane, the discharge from the eyes and nose, erosion of the mucous membrane of the mouth, the laborious breathing with a grunt during expiration, and other general symptoms, combined with the *post-mortem* lesions described in the report, and seen by me, indicate that the disease which so commonly attacks horned cattle in Shanghai is the genuine Cattle-plague or Steppe Murrain.

"I need scarcely add that the satisfactory demonstration of the fact is of immense importance to Europe, and especially to Russia, since it confirms the opinion, entertained by myself and others, that Rinderpest is not an indigenous disease, capable of spontaneous development in any part of Europe. Its complete extinction, even in Russia, is therefore quite possible, provided the cattle traffic with China can be effectually controlled. I consider that the observations made by Dr. Edward Henderson and Mr. Keele are of the greatest importance in relation to our knowledge of the geographical distribution of epizoötics, and also in relation to the cattle trade of Eastern Europe."

We have recently received the Shanghai Health Officer's

* Referred to in Mr. Keele's paper.

Report for 1875. In it Dr. Henderson makes further allusion to the malady, in the following terms: "I have to record the appearance of Cattle-plague in Shanghai during the last half of 1875. The first example of the disease which came under my notice occurred in the establishment of a native cattle dealer in Hongkew. I find, on referring to my note-book, that I visited his sheds with the Council's Market Inspector on the 20th September, and saw there an animal dying of the Plague. On the 27th October I was taken by Mr. Howes to a native butcher's yard near Pah-sing-kew, where a bullock, in an advanced stage of the disease, was slaughtered in my presence by order of the proprietor, who also permitted me to make an examination of the carcase. On October 13th I visited a native dealer's establishment, on the road leading to the new cemetery, and saw, in a lot of eight native bullocks, five sick, in various stages of Rinderpest. Among the many other examples which I had the opportunity of observing during the rest of the year, are included five cases affecting foreign cattle."

Reference is then made to the experimental inoculations carried out by Dr. Henderson, and described in Mr. Keele's paper, which appeared in the *Veterinary Journal* for April; and in concluding his remarks with regard to them, Dr. Henderson says:—

"I regard these observations as of importance; (1) As being almost typical illustrations of the symptoms, progress, and usual terminations of this disease in Shanghai; (2) As proving to those who still refuse to believe that the disease is Rinderpest, that there at least exists among cattle at Shanghai a well-marked form of serious contagious disease; (3) As showing the valuable indications which can be obtained by observations of the temperature in affected animals."

Brief reference is then made to medical treatment of the malady, and to the only case of recovery, from the administration of quinine (recorded in the May number of the *Veterinary Journal*), and Dr. Henderson continues:—

"When, in a memorandum dated April 5th, 1872, I first announced the presence of Cattle-plague in Shanghai, I advised that all affected cattle should be slaughtered; but I did

this under the impression that the disease had been accidentally imported (from France by mail steamers), and could be extinguished by prompt action on the part of the municipal authorities. Subsequent experience and investigations have proved to me that Rinderpest is endemic (enzootic?) in Shanghai and its neighbourhood, and that any attempt at "stamping out" is useless. I have now, therefore, ceased to regard the destruction of sick animals as of consequence, and have, so far as was prudent, rather encouraged attempts at cure by the owners of foreign stock. In the case of native cattle, my interference has only been needed to prevent the flesh of diseased animals entering the foreign market. The native dealers have, by long experience, learned the hopeless nature of the complaint, and never hesitate to destroy an animal which shows marked signs of the disease; their object is to anticipate death, and by securing the proper bleeding of the carcase, to preserve for the flesh a wholesome appearance when exposed for sale.* . . . . . At what time after recovery can a convalescent be restored to the herd? was a question frequently put to me during the past year. As to this I cannot speak with any certainty. I have no experience of my own to guide me; but I should recommend that *at least* a month be allowed to elapse after complete restoration to health. Careful washings with suitable disinfectants would greatly diminish the risk. In Shanghai an animal which has suffered from the disease and recovered, has a certain added value, in virtue of the fact that there is little chance of a second attack. In the case of a milch cow this is an important matter."

There can scarcely remain a doubt that the Cattle-plague is a disease peculiar to Central Asia, and that it also appears in various regions of that great continent at various times; though whether it is imported thence from the Mongolian Steppes, or whether it arises from a combination of influences brought into operation in them, it is difficult to say. Père David saw it destroying multitudes of cattle in Mongolia; and one of the most recent travellers in that country, whose very interesting

* The native milk-supply, comparatively inconsiderable in amount, is obtained chiefly from water buffaloes, which seem less liable to contract the disease than other cattle.

volumes have just come into our hands,—Colonel Prejevalsky* —not only alludes to it, but affords us a clue to the manner in which it may be carried thence into China. Speaking of the Mongols, he says: "Their only occupation and source of wealth is cattle-breeding, and their riches are counted by the number of their live stock,—sheep, horses, camels, oxen, and a few goats—the proportion varying in different parts of Mongolia. Thus the best camels are bred among the Khalkas; the Chakhar country is famous for its horses; Ala-shan for its goats; and in Koko-nor the yak is a substitute for the cow. The Kalka country ranks first in the wealth of its inhabitants, who are mostly well off; *even after the Cattle-plague* had destroyed countless oxen and sheep, large herds were still owned by individuals, and there is hardly a native but possesses some hundred of the fat-tailed sheep. In Southern Mongolia—*i.e.* in Ordos and Ala-shan—the sheep are of a different breed; and at Koko-nor they have yet another kind, with horns eighteen inches long. As all the requirements of life—milk and meat for food, skins for clothing, wool for felt, and ropes—are supplied by his cattle, which also earn him large sums by their sale, or by the transport of merchandise, so the nomad lives entirely for them. His personal wants, and those of his family, are a secondary consideration. His movements from place to place depend on the wants of his animals. If they are well supplied with food and water, the Mongol is content. His skill and patience in managing them are admirable. The stubborn camel becomes his docile carrier; the half-tamed steppe-horse his obedient and faithful steed. He loves and cherishes his animals; nothing will induce him to saddle a camel or a horse under a certain age; no money will buy his lambs or calves, which he considers it wrong to kill before they are full-grown. Cattle-breeding is the only occupation of this people; their industrial employment is limited to the preparation of a few articles for domestic use, such as skins, saddles, bridles, and bows; a little tinder, and a few knives. They buy everything else, including their clothes, of the Chinese, and, in very small quantities, from the Russian

* "Travels in Eastern High Asia, Mongolia, the Tangut Country, and the Solitudes of Northern Tibet." London, 1876; vol. i., p. 57.

merchants at Kiakhta and Urga. Mining is unknown to them. The inland trade is entirely one of barter; and the foreign trade is confined to Peking and the nearest towns of China, *whither they drive their cattle for sale,* and carry salt, hides, and wool to exchange for manufactured goods."

Having now ventured so frequently to draw attention to the existence of this really formidable scourge at Shanghai, and in fact all along the Chinese seaboard, as well as in the interior, we can only once more impress upon all those concerned in that part of the world—in India, the Straits Settlements, Egypt, Australia, Japan,* and even America—of the danger they incur by receiving ruminants which have come from that country, unless at the very least a careful quarantine is enforced.

We might even warn the Intelligence Department of the British army of the existence of such a formidable foe in China; lest, in case of future military operations in that country, we might be exposed to the same serious loss and inconvenience that happened to us in 1860.

RABIES IN BAVARIA.

FROM 1839 to 1852, fifty-nine cases of Hydrophobia in man were registered in Bavaria; from 1852 to 1864, seventy-two cases; and from 1864 to 1872, one hundred and forty-eight cases,—a total in 33 years of two hundred and fifty-seven persons who had perished from this terrible malady. But even this list is probably much below the actual number, as many victims may have succumbed without the authorities having been informed.

This sad mortality may be attributed to the very defective police regulations with regard to dogs in Bavaria; for perhaps in no civilized kingdom are there so many of these creatures as in that country. But a notable fact in connection with these statistics, is the large increase of victims to the transmitted disease during the last seven years: a circumstance to be remarked in several other countries than Bavaria, and which would indicate that Canine Rabies is becoming much more prevalent than formerly, or the virus of the malady more energetic.

For other creatures than the human species, the Bavarian statistics are not sufficiently accurate or complete to enable us to arrive at any satisfactory conclusion; but it appears certain that a large number of cattle, horses, sheep, and pigs have been lost from transmitted Rabies. In two villages alone—Kuhbach and Odelghausen—in one year, 1866, no fewer than seventeen cattle died of the disease.

* We are informed that the disease is now present in Japan.

Editorial.

THE CHARTER MANIA.

It will be seen from the report which we elsewhere publish, that the Highland and Agricultural Society of Scotland is endeavouring to obtain a charter by which it may be empowered to grant veterinary *diplomas*, instead of the certificate it has given for so many years, and which, it would seem from this report, has now nearly, if not altogether, lost its popularity with the students educated in Edinburgh and Glasgow. To every movement that is likely in any way, and even in the slightest degree, to benefit veterinary science, we would at once give our consent and, if need be, assistance; as when its welfare is in question we disclaim belonging to any school or country. We have lived sufficiently long, and travelled sufficiently far, to reckon ourselves as cosmopolitan in this respect, and are able, perhaps, from our knowledge of it, to take a wider view of its position and requirements than the walls of a school or committee-room sometimes allow.

It is therefore our candid opinion that this application of the Highland Society for a license to bestow diplomas in veterinary medicine, in opposition to the Royal College of Veterinary Surgeons—which is the veterinary profession of the three kingdoms legally incorporated—is a grave mistake, and would not have been made, we feel convinced, had the majority of the members of that Society been aware that this power, if granted them, would be directly to the detriment of veterinary medicine, and indirectly to the interests of agriculture and the public at large. In the first place, there is not the slightest necessity for this application; as it is evident from the very imperfect report of the interview of the Society's deputation which waited upon the Duke of Richmond, that not a single well-founded grievance could be established against the profession, and that the only plea for seeking a charter was to be able to give a *cheap* diploma. We know what that means. In the next place, we must remember that this power is sought for by an Agricultural Society, and to the entire exclusion of the veterinary profession; the proposed Council being composed of gentlemen, no doubt unequalled in their own particular departments, but who from lack of special knowledge, like governors and councilmen in a similar position, might be led—or rather, misled—by any unscrupulous individual who wished to serve his own ends without regard to other interests. It is true that the Principals of the Veterinary Schools in Scotland are mentioned as in this proposed Council—possibly to show that, after all, the Society had not altogether decided to ignore the profession; though it must be obvious that, even if working in harmony, their voices or their votes would be in a very small minority indeed. But there is nothing whatever to lead us to suppose that the principals of veterinary schools must needs always or ever be disloyal to the profession, nor to make us believe that those in Scotland have given their assent to this damaging movement in any way. We can give them credit for more independence of spirit, and

a more sincere desire for the general good. Indeed, we have every reason to believe that our colleagues throughout the three kingdoms resent this uncalled-for application, which, if successful, would do them, and those who will come after them, the most serious harm. Two competing corporations in such a numerically small profession, especially when one of them existed only because it was underselling its opponent, would be nothing less than ruin to its prospects, and most damaging to the public interests. We have already had some experience of this with the certificate. Never, perhaps, at any time in our brief history has there existed a stronger desire throughout the entire body of the profession to maintain unity and the privileges of our charter. Recent events have unmistakably proved the existence of this desire; and if the profession energetically and successfully opposed a teaching school, in its attempt to grant licences to practise veterinary medicine independently of the Royal College of Veterinary Surgeons, we may feel assured it will do so more strongly now, when the attempt is made by an agricultural society without any just or tangible reason. We contend that such a society is not a competent body to be invested with the power to confer diplomas or degrees in medicine—human or animal, nor yet to control the affairs or educational arrangements of the veterinary profession. We are perfectly able and willing to attend to our own interests in these respects, and have become fully alive to the fact that these interests can only be promoted by ourselves. The alliance between agriculture and veterinary medicine is intimate, but the two are not one; and it would be just as reasonable for the Royal College of Veterinary Surgeons to ask for a charter enabling it to give diplomas for competency in agriculture, as it is for an agricultural society to seek to be allowed to grant diplomas in veterinary medicine.

The Highland Society has doubtless done good service to our science in bygone days, and its desire to promote its well-being will, if carried on in a proper direction, be beneficial to it as well as to agriculture; but its *raison d'être* as a certificate-bestowing or diploma-granting body, so far as the veterinary profession is concerned, has happily vanished. We earnestly hope that for its own good, no less than for that of veterinary medicine, now and hereafter, it may not be successful in this unfortunate and unjustifiable attempt to impose needless labour and responsibility upon itself. We venture to express ourselves candidly, though with the greatest respect and admiration for this excellent Society, which has done so much for us, and we sincerely trust may do still more, though not in the certificate or diploma way.

THE RE-ELECTION OF OUR PRESIDENT.

We feel assured that the profession will welcome the announcement that Colonel Sir Frederick Fitzwygram, Bart., has been re-elected President of the Royal College of Veterinary Surgeons for another year. The arduous task which fell to his lot on assuming office last year, in the matter of

resisting threatened damage to the Royal College by a charter, again confronts him in the shape of another charter on resumption of the presidential chair, which he has once more honoured and obliged us by occupying. We have no doubt whatever that his second term of office will be as successful as the first, and be marked by great and beneficial progress in the direction he has so well marked out.

CYSTICERCI (*BLADDER-WORMS*) IN YOUNG PIGS AND LAMBS.

We do not remember having seen any allusion, in the literature of parasitism, to the earliest period at which Cysticerci, or germs of human tape-worm, are found in young animals, as the result of accidental ingestion of the ova of these entozoa. Not long ago, in examining the body of a pig a few weeks old, and which had died from the so-called "Typhoid" while under our observation, we were surprised to discover a number of fully-developed bladder-worms in the thoracic and abdominal organs; and only a few days since, in examining the carcase of a young lamb—one of a number which had perished from Diarrhœa—we collected several cysticerci from the omentum. We have not yet been able to assure ourselves whether the mortality among the lambs may not have been due to the direct or indirect influence of these internal vermin. At any rate, our meeting with them in such a casual manner shows how common parasitic infection of flesh-producing animals may be, and what risks people incur who consume them as food. Those who rear or feed such animals require enlightening in this respect, so as to prevent their commodities being adulterated by such dangerous ingredients; while cooks should be impressed with the value—nay, necessity—of doing their work thoroughly.

CONTAGIOUS DISEASES IN NORTH AMERICA.

In reply to certain inquiries we made with regard to the absence, or otherwise, of some contagious maladies of animals in Upper Canada, Professor Smith, of the Toronto Veterinary College, writes:—"'Foot-rot' in sheep is scarce in Ontario, and in what cases I have seen, and from inquiries I have made, the disease appears to be due to certain local causes, and not to contagion. I have known some of our farmers who imagined that it was contagious; though investigation showed that it was not, but that it was merely due to local influences. There are no large flocks of sheep in the Province. An average-sized farm—say one hundred acres—will have from twenty to thirty sheep, and in winter they are all kept in the barn-yard, and house-fed. In the spring, when the snow disappears, and the ground becomes wet and 'slushy,' the middle of the day tolerably warm, and the nights very cold, cattle, sheep, and

horses invariably suffer from irritation of the feet and limbs. We have lately had a number of cases of Acute Erythema, or 'Mud-fever,' among our horses, and from the usual causes—such as wet and slush, and washing the limbs with cold water; of course, all due to local, and not to constitutional causes, as has been stated. Last year we had an outbreak of Foot-and-mouth disease among cattle in Ontario. It came through the medium of some sheep imported from England in the month of August. They were shipped from Liverpool, I believe, apparently healthy, duly inspected, and furnished with a clean bill of health (one of the fallacies of inspection). When at sea several days, some of them were noticed to be lame and sore, and the attendant thought they were cases of 'Foot-rot,' or perhaps simple bruises. These sheep were brought to the Province, and located on two farms sixty miles apart. The cattle on these and neighbouring farms soon became affected with *eczema epizöotica*, and there was considerable excitement in the districts so infected. On the part of the Ontario Government, I was requested to investigate the circumstances connected with the appearance of the disease, and also to adopt measures to prevent its spread. In all, about two hundred head of cattle were affected, and I had no difficulty whatever in tracing the origin of the disease to the sheep already referred to. At one of the farms I was assured it was only Foot-rot the sheep were suffering from—which I could not believe. Of course, I recommended isolation and no intercourse with the farms where diseased animals were; and in a few weeks its progress was arrested. The cold weather came on; and I assure you our Canadian winter proves the best of disinfectants. Eczema epizoötica existed on several farms some years ago, but did not spread; it was brought here through the medium of imported thoroughbred cattle. As a great many cattle are yearly imported from England, the Canadian Government has decided to establish a quarantine at the ports of Quebec, St. John's, and Halifax. The Government at one time had an idea of preventing the importation of stock from England so long as Foot-and-mouth disease is so prevalent; but finally it decided to establish quarantine, which, I think, will prove more satisfactory than prohibition.

"Glanders is by no means prevalent in Ontario. We occasionally meet with a case or two, but have had no serious outbreaks. Some years ago it was frequently noticed, in connection with some of our large 'lumbering' establishments, where there were a great many horses congregated, and generally very badly cared for. During the American war, Glanders prevailed, as you are aware, to an alarming extent among the horses and mules,—no doubt partly due to contagion, and partly to other debilitating influences.

"The cattle and horses of Ontario are generally very healthy, and may be said to be almost free from contagious diseases. In all well-settled districts they are carefully attended to, and the stables, although not built generally upon any scientific principles, are usually well ventilated. We have plenty of cases of Influenza in some seasons—due, of course, to atmospheric influences, and occasionally aggravated by the usual local influences."

From the *Montreal Herald* we learn that Professor McEachran, of that city, has been appointed chief inspecting officer for Quebec, and that the landing-place at Point Levi has been provided with all the necessary accommodation of a quarantine establishment.

It is satisfactory to learn that our Colonial colleagues have sufficient influence with their Governments to inaugurate these most important measures, and are by no means imbued with the notions, or rather absence of knowledge, which rule the Government of this country with regard to contagious diseases, which allowed us first to be invaded by Foot-and-mouth Disease and bovine Pleuro-pneumonia, and finally Cattle-plague. We earnestly hope that our agricultural colonies will in no way imitate the mother country in her management of these scourges, but will be guided by modern scientific knowledge of their nature and mode of extension. Above all, let them avoid her example of relying on superficial port inspection to prevent the introduction of such diseases. We are satisfied that no greater fallacy exists, and that it could only be tolerated in a country which lacks knowledge of veterinary science, or is willing to be deluded.

A VETERINARY SANITARY SERVICE FOR FRANCE.

THE *Officiel* publishes a decree appointing a committee to inquire into the best means of dealing with contagious cattle diseases in France. The report of the Minister of Agriculture, setting forth the necessity of the Government taking steps in the matter, contains some most important and interesting facts. M. Teisserenc de Bort begins by pointing out the defective state of the law, and the inefficiency of the precautions at present in force. He then goes on to say :—

"As far back as 1865 the Cattle-plague aroused the attention of England, Holland, and Belgium, who immediately took the necessary precautions. Other nations that were not ravaged by the epizoöty followed their example; and since then most of the Governments of Europe have done their best to protect the interests of agriculture by drawing up rules in conformity with modern necessities, and by organizing a permanent veterinary service to ensure the execution of the police measures applicable to each particular case. These two things are still wanting in France, and hence the reason why the Administration has always found itself more or less powerless to prevent the spread of contagious diseases. Not to speak of the last invasion of the Cattle-plague, which cost us more that 100,000 head of cattle, but which encountered in the misfortunes of the country conditions too favourable to its development, the loss caused by epizoöties is to be estimated by millions. For example, to quote only a few departments : in the Loiret, in 1874, the loss was 1,200,000 francs ; Contagious Pleuro-pneumonia alone cost 150,000 francs in the Aisne, 80,000 francs in the Manche, and in the Nord and the Ardennes the losses were equally considerable. In the Nord Pleuro-pneumonia has not ceased to prevail since 1825, the date of its first appearance. These figures are sufficient to prove the loss occasioned every year to agriculture by epizoöties ; and it is easy to see that in the majority of cases the sanitary prescriptions remain unobserved. Recent facts mentioned by the Minister of War

show this to be the case. The existence of Glanders, which committed such ravages among the horses at Saint Lô, was proved in several communes of the circumscription, and according to the information received at the War Department, the infected animals were allowed to go about at liberty. Our sanitary legislation with regard to animals must, therefore, be remodelled. It must be placed in harmony with the new economical conditions of the day, with the principles of modern right, and with the progress of science. But what is not less urgent, is the institution of some veterinary organisation, without which all police rules will remain a dead letter. Such an organisation would be attended with several advantages. Our export commerce is directly interested in it. The departments of the west formerly carried on rather an active trade in cattle with England ; but that country, which surrounds itself with the greatest precautions against the introduction of epizoöties, objects to the insufficiency of our rules, the negligence shown in their application, and the absence of all guarantee ; and it submits our cattle imports into the United Kingdom to restrictive measures almost equal to absolute prohibition. Since the adoption of these measures our cattle exports, which were 21,000 head in 1869, and 38,000 in 1866, have fallen to 2000 head. This situation will only cease when we can give to the English Government the proof that these contagious diseases are not abandoned to themselves in France. Looking, therefore, at all these facts, it is evidently the duty of the Government to seek the means of giving satisfaction to the numerous interests engaged in the question."

Accompanying this report is a decree of the President of the Republic, dated May 24th, announcing the institution of a Consultative Committee on Epizoötics, in connection with the Ministry of Agriculture and Commerce of France. This Committee is charged with the study and examination of all such questions as may be submitted to it by the Minister, more especially of such as concern the reforms to be introduced into the legislation relating to epizoötics ; the establishment and organization of a veterinary service ; and the measures to be taken for preventing and meeting epizoötics, as well as appropriate measures for improving the sanitary and hygienic condition of animals, and for encouraging the production of cattle. The Committee will reduce to writing such instructions on these subjects as it may be desirable to publish. It will make a digest of reports acquired in connection with epizoötic diseases abroad, and point out such of them as it may be useful to publish in the interests of Agriculture ; and, lastly, it will present to the Ministry every year a general Report on the sanitary condition of cattle during the last twelve months. The Committee is to include eleven members, of whom five are *ex officio* members—viz., the General Secretary of the Ministry, the Director of Agriculture, the Inspector-General of Veterinary Schools, the Inspector-General of the Sanitary Service, and the Director of the Veterinary School at Alfort. The remaining six will be nominated by the Minister of Agriculture, and will include a Councillor of State, a lawyer, an Inspector-General of Agriculture, a Chief Veterinary Surgeon in the Army, a member of the Central Society of Veterinary Medicine, and a member of the Central Society of Agriculture. The President is to be appointed annually by the Minister. A permanent Secretary will be appointed at a fixed salary, while the members of the Committee are to be remunerated according to their

attendance at the meetings. The Committee is to meet at least twice a month, and more frequently if circumstances should arise to demand it.

We shall notice this subject again in our next number.

INOCULABILITY OF TYPHOID OR ENTERIC FEVER.

A QUESTION of some moment with regard to the disease which has been designated "Typhoid" in pigs, has been settled in so far as Enteric Fever in man is concerned, so that the time has now arrived for us to allude to the subject. Without discussing at this moment whether the pig really suffers from Enteric Fever, it is certain that this animal is liable to a disease which, with reference to the intestinal lesions only, bears a very superficial resemblance to that malady. But so far as our researches extend, this affection is *not* inoculable, nor has it been transmitted as yet by cohabitation; though another disorder of pigs, accompanied by a cutaneous eruption, is transmissible both by inoculation and cohabitation. We may have reason hereafter to modify these opinions, through further researches; at present we believe them to be correct.

It appears now to be an established fact that human Enteric Fever cannot be transmitted to man nor to animals by inoculation, nor yet by ingestion (in animals) of typhoid alvine *dejecta*. With regard to the latter, we find from the Reports of the Medical Officer of the Privy Council, published last year, that Dr. Klein has administered them to monkeys, dogs, cats, guinea-pigs, rabbits, and white mice, under the most favourable circumstances, but without producing the slightest result.

For three years, says the *Centralblatt* of March 11, Dr. Motschutkoffsky, Director of the Odessa City Hospital, has been experimenting with reference to the inoculability of Typhus Fever; being prompted thereto by the fact that Enteric, Typhus, and Relapsing Fevers rapidly become at times severe epidemics. He was further instigated to this research by the success of Dr. Münch, who succeeded in developing in himself Relapsing Fever by auto-inoculation with the blood of a patient suffering from that disease. The experiments were made upon men (volunteers), and such animals as monkeys, rabbits, dogs, and cats. The result of his attempts established the fact that inoculation of man or beast always failed to produce Typhus and Enteric Fever; while Relapsing Fever could be readily induced by inoculation in man, though absolutely impossible in animals. In this disease, in which we have the peculiar filamentous bodies termed *spirilla*, the inoculable matter was the blood, and this appears only to be potent at the onset of the fever or during relapse; if obtained during the period of apyrexia it gave negative results.

HORSE-FLESH AS FOOD AND MEDICINE.

OUR colleague M. M. E. Decroix, principal veterinary surgeon of the Lyons Army, in the *Abeille Médicale* again draws attention to the great advantages to be derived from utilising horse-flesh for human food, and the dangers people might escape. On various occasions we have pointed out the important benefits the consumption of horse-flesh would yield, not only to our own, but

also to the equine species, and we have also shown that to prejudice alone—unreasoning prejudice, without a shadow of fact to support it—thousands of tons of good food are annually lost to the community in this country; while in France, Germany, Denmark, Sweden, and other regions this aliment is every year becoming more common. Decroix, in this instance, dwells more upon the hygienic aspect of the question, as will be seen from what follows.

"For some years," he says, "hygienists and pathologists have been directing their attention to the progressive invasions made by tape-worm in the human species, and they have applied themselves to discover the cause of these invasions and the means by which they may be opposed. Notwithstanding several very interesting works, some points are yet controverted; but it has been demonstrated that we are attacked by the armed tape-worm (*Tænia solium*), as well as the unarmed (*Tænia mediocanellata*, or, better, *Tænia inermis*); that the germs of these entozoa are introduced into the intestinal canal of man by the flesh he eats; and, finally, that the armed tape-worm is derived from the pig and the unarmed one from the flesh of cattle and sheep. 'Whilst the former,' writes Dr. Cobbold, 'chiefly infests the poor, who feed much on pork, the latter is met with mostly among the rich.' 'It is well known,' adds Dr. Copland, 'that the larvæ of this parasite (*T. inermis*) are derived from imperfectly cooked veal and beef.' A very interesting remark has been made by M. G. Regnault (*Abeille*, 1867, p. 246), to the effect that the number of armed tape-worms has not notably increased, while the unarmed worm has become more and more frequent. The certain cause of this frequency is considered to be the therapeutical employment of raw meat, nowadays very common; and also the custom of eating it raw (*saignantes*). The latter cause has not been sufficiently brought before the public, although it is so important to know.

"Beef and mutton, then, frequently contain, in addition to their nutritive principles, morbific germs the existence of which is not apparent to the meat inspectors or flesh consumers. This is a fact admitted by every one who is occupied with the question of the propagation of tape-worms. Several times already I have called attention to the danger of using raw meat, and principally as to the means by which this danger may be averted; but it will be useful again to refer to these.

"In my opinion it is not possible that every bit of butcher's meat can be so thoroughly inspected, that no germ of the tape-worm shall escape the m: careful examination; and I may add that, in practice, many animals bearing these germs are consumed as food, by the force of circumstances, and without any one being in fault. It is therefore necessary to be on one's guard, and seek to avoid the risk.

"In the first place, the custom of eating raw flesh must be abandoned; roasted flesh is usually well cooked—even burned—externally: while in the interior, in many instances, it is still raw. In the second place, when physicians have to prescribe raw meat, the *flesh of the horse* should be chosen by preference, as it is *more healthy and more nutritive* than that of the ox, sheep, or pig. The horse, in fact, is not liable to those verminous affections which produce the germs of the different kinds of tape-worm, of which the human body is the receptacle. Horse-flesh is *more digestible* than that of the other animals, which are prematurely and excessively fattened. It suits more especially weakly, anæmic, or chlorotic people, and those who undergo severe muscular exercise. These good qualities explain the steady increase in the use of this flesh, as the following figures testify. During the first quarter in 1875, the number of horses slaughtered for food in Paris was 1821; in 1876 it was 2370: increase, 549."

Our estimable *confrère*, who has laboured so long and so earnestly in this direction, draws particular attention to the fact that a sum of *one thousand*

francs (£40), will be awarded to whoever opens the first establishment for the sale of horse-flesh in London. We earnestly hope, in the cause of humanity to our own species, and no less on behalf of our good friend the horse, that this prize may soon be claimed on application to Mr. A. Bicknell, 23, Onslow Gardens, London, or to M. Decroix, 36, Cours du Midi, Lyons.

RABIES SUCCESSFULLY TREATED BY WOORARA.

OFFENBERG, in his inaugural dissertation (Berlin, 1875) reports the case of a girl, twenty-four years of age, who had been bitten eighty days before by a dog supposed to be rabid. Injections of morphine and the inhalation of chloroform having been used without benefit, seven injections of woorara, amounting in all to three grains, were given in the course of five and a half hours. First the muscles became steadier, then the convulsive seizures less frequent, the dread of water and the pholophobia disappeared, and the voice improved. Some symptoms of paralysis now appeared, which reached their maximum the following day. On the second day there was a slight relapse of the symptoms of Rabies, which was checked by an injection of a little less than half a grain of the woorara. The patient recovered slowly, a certain degree of weakness and sluggishness, and especially weakness of sight, remaining at the end of two months. There was inflammation, but no suppuration, at the points of injection.

TREATMENT OF ERYSIPELAS BY SUBCUTANEOUS INJECTION OF CARBOLIC ACID.

FOLLOWING Hüter, who has shown that injections of carbolic acid may be successfully employed in combating traumatic erysipelas, Aufrecht has had recourse to the same treatment for the spontaneous erysipelas of old people, and gives the results in two cases. One was that of a woman, aged fifty-six years, who had erysipelas of the hand and fore-arm; the second was that of a man eighty-two years old, affected with erysipelas of the leg. In the first case he gave five injections in two days, and in the second, four injections in two days. The injections were made into the healthy subcutaneous tissue, in the vicinity of the erysipelateous part nearest the trunk. The erysipelas did not extend to the seat of injection, and, what is most important, the fever afterwards abated and a general improvement occurred. The swelling and tumefaction near the injection diminished rapidly, and only persisted for two days; convalescence occurred without any untoward accident.

THE "DISTEMPER" OF THE DOG

BY PROFESSOR SEMMER, OF DORPAT.

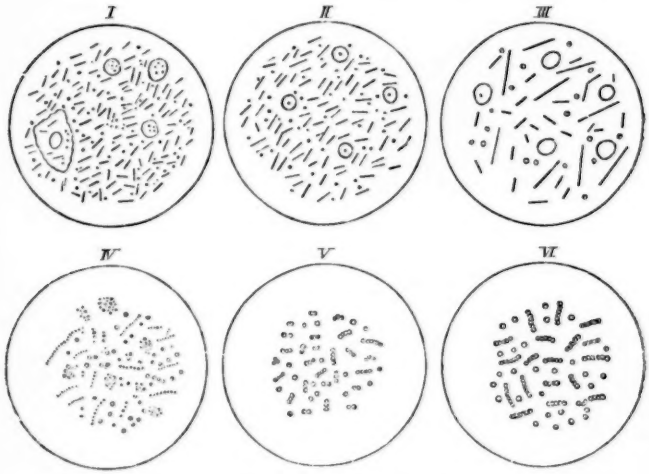
(*Deutsche Zeitschrift für Thiermedicin. Ersten Bandes*, p. 204.)

THE question as to the contagiousness of "Distemper" in the dog not having been as yet finally and decisively settled, Semmer has given some observations on the subject, which are interesting. He says that in Dorpat and its neighbourhood the malady breaks out periodically, and not unfrequently in an epizoötic manner. In some years few if any cases are observed, and in others it is very prevalent, and claims a large number of victims. The climate of Dorpat is, in the spring and autumn especially, foggy and wet, and in winter extremely variable; there being often, within twenty-four hours, a fall from 88° to 27° Fahr. But, notwithstanding the changeableness of the climate, the "Distemper" (*Staupe*) is far from being a constantly present disease. This circumstance, and especially the capriciousness of its epizoötic manifestions, speaks strongly in favour of its contagiousness. And as a striking proof in this direction, Semmer gives the following instance. In the spring of 1875, the "Distemper" was not very common in Dorpat, only one case having been dissected at the Veterinary Institute. The carcase of this dog had been lying exposed to the cold for about fourteen days before it was examined. Soon after this had been done, Semmer's own dog, three months old, lost its appetite, and on the following day there appeared unmistakeable symptoms of "Distemper;" though no alteration had been made in the animal's usual mode of living, nor had it been subjected to vicissitudes of temperature, and it had not been in contact with any sick dogs. As the appearance of the disease could not be attributed to any apparent cause of this nature, Semmer concluded that his puppy was infected by himself, he having carried the contagium in his clothes to his own house, where his dog was kept, after making the examination of the before-mentioned subject in the dissecting room. In ten days, notwithstanding the most careful treatment, the animal died. About eight days afterwards, Semmer received another dog of the same age, which was also infected through him, but it recovered in fourteen days.

An autopsy of the puppy which died, made an hour after death, yielded the following results. Body emaciated; the eyes and nostrils glued with a purulent mucus; the lungs of a reddish-brown colour, heavy, denser in consistency, their parenchyma infiltrated with fibrinous exudate, portions being atelectastatic, with commening cell-infiltration of the alveoli. The mucous membrane of the respiratory organs was reddened, tumified, and covered with mucus. The brain and spinal cord were œdematous; the liver was bright yellow in colour, like that of a nutmeg, and studded with brick and brownish-red streaks and spots from fatty degeneration. The spleen was enlarged with marrow-like infiltration; the kindeys were congested, and the epithelium of the uriniferous tubes undergoing fatty granular degeneration and dissolution. In the mucous membrane of the digestive and urinary organs were stellate patches of hyperæmia and ecchymoses. The muscular tissue of the heart was pale in colour, and commencing to undergo fatty degeneration. The blood was watery, and the serum contained a great number of "globular bacteria" (*kugelbakterien*), some isolated, others in ball-shaped clusters, and others again adhering to the colourless and red blood-corpuscles. Besides the globular bacteria, there were found extremely delicate and fine "staff-shaped bacteria" (*stabbakterien*); the first were only visible by a magnifying power of six hundred diameters. The liver cells and epithelium of the uriniferous tubes were full of bacteria; the urine was of

a brownish-red hue and muddy, and contained red and white blood-corpuscles, epithelial cells from the urinary passages, and a large number of globular and delicate rod-bacteria, some free, and others enclosed in the blood-corpuscles and epithelial cells. The extremely delicate, and in all probability characteristic, bacteria of "distemper," and which we shall name them—notwithstanding the preparation containing them (a portion of liver and lung) had been treated in a glass vessel with strong alcohol, which had preserved it from every appearance of decomposition—were, in twenty-four hours after the death of the dog, discovered to exist in enormous multitudes: in such numbers, in fact, that each unaltered red blood-corpuscle in the blood of the lung or liver contained from fifty to one hundred, or even more. When decomposition had commenced, however, they disappeared, and were replaced by the bacteria peculiar to that process: the same occurs with the Anthrax bacteria.

Beyond the globular bacteria, the delicate staff-shaped bacteria (fig. 1 in the annexed cut) of "Distemper" are essentially distinct from those of any



THE BACTERIA OF DIFFERENT DISEASES.

I. Distemper Bacteria. II. Anthrax Bacteria. III. Septic Bacteria.
IV. Putrefaction Bacteria. V. Glander Bacteria. VI. Cattle-plague Bacteria.

other of the contagious diseases, such as Anthrax (fig. 2), Septikæmia (fig. 3), Putrefaction (*Fäule*—fig. 4), Glanders (fig. 5), Cattle-plague (fig. 6), etc.

Semmer made a *post-mortem* examination of the bodies of about fifty other dogs which had perished from Distemper, and in all he found the same histo-pathological alterations. When death ensued during the first stage of the disease, in the majority of the cases lung-œdema was apparent; when of longer duration, there was purulent broncho-pneumonia; at times general suppuration of both, or a large portion of both, lungs; while in other instances, one lung or a lobe would be in a normal condition.

In by far the larger proportion of cases, with complete loss of appetite, continually increasing thirst, and intense fever, and consequently increased consumption of the albuminates of the body, there occurred blood hydræmia: followed, of course, by a tendency to acute œdema of the lungs and brain, and effusion into the ventricles of the latter, which was often the cause of sudden and unexpected death. The digestive organs were least frequently affected; when they were involved, the mucous membrane of the stomach and intestines, especially of the small intestines, was at times reddened, tumified, and exhibited patches of ecchymoses. The unmistakeable fatty-granular degeneration of the liver and kidneys was not a constant feature in these autopsies, and might have partly depended upon the alimentation of the animals during life. Neither were the staff-shaped bacteria always found in very great numbers; their development, as well as that of the globular bacteria, appeared to be dependent upon particular circumstances.

Semmer comes to the conclusion, from his experience, that the "Distemper" in Dorpat belongs to the class of miasmatico-contagious diseases.

With regard to the treatment of the disease, Semmer informs us that the dogs received a milk diet, were kept in warm clean apartments, and internally they received tartar emetic, quinine, acids, and calomel. When cerebral œdema and lung infiltration set in, derivatives were employed, such as setons in the neck or the chest, blisters, hot baths, and the other useful agents of this class.

THE ANTAGONISM BETWEEN STRYCHNIA AND MONOBROMIDE OF CAMPHOR.

BY VALENTI Y VIVO.

DR. VALENTI Y VIVO has made a series of researches on the supposed antagonism between strychnia and monobromide of camphor, and has arrived at the conclusion that the latter may be considered an antidote for the former. He asserts that the following conclusions are well established: 1. Twelve dogs, after receiving a fatal dose of strychnia, were saved by bromide of camphor. The experiments were practised in a satisfactory manner, with crucial tests. 2. The tetanic convulsions produced by strychnia may be reduced in force and frequency by the use of bromide. The action of the antidote is rapid and sure. 3. The hyposthenic action of the bromide mitigates the reflex activity of the poison. The tonic convulsions are converted into clonic. 4. The physiological antagonism is comparatively limited. A strong dose of bromide of camphor is necessary to antagonise the effects of strychnia. 5. The bromide acts on the sympathetic nerve; this is demonstrated by the myosis and the cardiac paralysis which were observed after its administration. 6. After an over-dose of bromide, the united effects of the poison and the antidote produce death by syncope; when death takes place during the strychnism, and without the antidote, cardiac impulses are observed *post-mortem;* when it takes place after and through the use of bromide, cardiac impulses are never observed. 7. The experiments show that it is preferable to introduce the bromide by gastric ingestion, and in small and repeated doses. The subcutaneous method, employed in some experiments, did not yield satisfactory results.

Dr. Valenti points out the importance of this antagonism in practical medicine, and he is of opinion that bromide of camphor may be used with advantage in cases of poisoning by strychnia, in quantity varying from four to six grammes, given in small doses.

Reviews.

FOOD: ITS ADULTERATIONS, AND THE METHODS FOR THEIR DETECTION. By A. H. Hassall, M.D. Longmans, Green, and Co., 1875, pp. 896.

Doctor Hassall has long been known as an authority, and a very high one, on the adulteration of those articles which are included in the comprehensive term "food," and more especially have his labours been directed to the detection of these adulterations, and to a simplification of the various methods resorted to for their discovery. Many years ago he published what was then a most excellent work on the subject; but since then, and more especially quite recently, great improvements have been made in the chemical analysis and physical examination of food, and a new work appears to have been deemed necessary to meet the requirements of the sanitary officer or analyst. In such a work there is not much that particularly interests the veterinary surgeon, except that portion perhaps which relates to the flesh of animals consumed as food. Here we come upon ground which we may call our own; as the well-trained veterinarian should be much more competent to give an opinion as to the healthy or diseased flesh of animals, the peculiarities of whose tissues, either when sound or altered by morbid processes, are familiar to him, than the medical man, who is only acquainted with the flesh of his own species, which is excluded from the list of alimentary products—in civilized countries at least. The necessity for appointing members of the veterinary profession inspectors of meat has long been recognised on the Continent, where in the splendid public abbatoirs a skilled veterinarian examines the cattle and other animals before they are slaughtered and after the carcases are dressed, or during that process. This is the only way in which flesh can be assured as sound and free from danger. That medical men cannot be safely entrusted with this very important duty, is obvious enough to those who are cognisant of the special knowledge it requires; and even in Dr. Hassall's very voluminous and most excellent book, we find sufficient evidence of this. For instance, he states that "the flesh of horses affected with *Glanders* and *Farcy* does not appear to exert any injurious effects." This is a most dangerous statement, certainly, if horses are to figure in the butcher's shop; and quite erroneous, seeing the evidence we have that the ingestion of such flesh *will* produce Glanders. A portion of this evidence we have given in "Veterinary Sanitary Science and Police." It is much to be regretted that medical men in this country are so little acquainted with veterinary literature.

The same mistake is not made, we are glad to observe, with regard to Anthrax flesh, and especially that of sheep which have died from that form of Anthrax known in Scotland as "Braxy." We are continually told by non-professional people that such mutton is quite innocuous, while we have direct testimony to the contrary that it is not always so. Dr. Hassall says: "With regard to the effects of the consumption of the flesh of sheep which have died of 'Splenic Apoplexy,' or 'Braxy,' the evidence is stated to be be contradictory; but there is no doubt that it does give rise to blood-poisoning and to death in some cases. It would appear that pigs, dogs, and fowls are less affected by it than sheep, goats, or horses. Dr. Smith states that the shepherds in the Highlands of Scotland eat by preference 'Braxy' sheep, and are quite healthy; but then the flesh is never cooked until it has been steeped for two months in brine, and has been suspended some time from the kitchen-roof. It is preferred to ordinary salt mutton, because of its possessing somewhat the flavour of game. Dr. Letheby however writes: 'Every now and again, when perhaps the diseased parts have not been entirely removed, or when the the salting has not been sufficiently prolonged, or the

cooking has not been thoroughly effected, the most serious consequences result from it; insomuch that many medical practitioners who are acquainted with the habits of the Scotch shepherds in this respect, and have seen the mischief occasioned by the meat, declare that "Braxy" mutton is a highly dangerous food for man.'"

With regard to the effects of certain plants upon the flesh or milk of animals, the information is very meagre. We are informed that the flesh of hares which have fed upon *Rhododendron chrysanthemum* is poisonous; that of birds is sometimes rendered so by feeding upon the buds of *Calmia latifolia*.

The characters of healthy meat (ox) are tolerably well indicated in the following description: 'The muscles of sound flesh should be firm, elastic, pale for the young animal, and darker-coloured for the old one, and when cut across a little reddish juice should flow out after some time. The flesh should not be of a deep purple tint, as this is a sign that the animal has not been slaughtered, but has died without being bled. There should be no unpleasantness of odour, and no smell of physic; for diseased meat has a sickly corpse-like smell. There should be no marbling of the flesh, or softening, or purulent fluid in the intermuscular cellular tissue. The fat should be firm and without being marked with hæmorrhagic spots . . . In temperate climates, twenty-four hours after killing, the marrow of the hind-legs is of a light rosy-red colour and moderately firm. If it is soft, brownish, or exhibits black points, the animal has been sick or putrefaction has commenced."

The chapter on Water possesses some interest for the veterinary surgeon. We are told that "a hard water is injurious for drinking, because its powers as a solvent for the food are impaired, and because it is taken up by the absorbents of the stomach with much greater difficulty than a soft water,—thus impeding digestion. . . . Diarrhœa may be produced by the irritation of mineral substances *mechanically suspended* in the water, as clay and marl, as well as by *suspended* and *dissolved* organic matters, especially those of an animal nature, as *sewage* and *fæcal* matter. . . . The drinking of water impregnated with sulphuretted hydrogen and sewer gases will likewise give rise to diarrhœa. Dysentery may be produced by impure water, and drinking water may also propagate the disease, as it appears to do with human Typhoid and Cholera; parasites and entozoa may also be conveyed by the water."

So far as the work bears on matters connected with veterinary science, it is to be commended; of those portions which refer more particularly to the analyst's and sanitary officer's department we decline to give an opinion.

DE LA MALADIE CHARBONNEUSE. (The Anthracoid Disease.) Par A. A. Hauer. Paris, 1876.

This little "inaugural" thesis does not present very much that is novel to the comparative pathologist, and its essence is contained in the following conclusions arrived at by the author:—

The anthracoid disease appears in two degrees: Malignant Pustule and Malignant Œdema. It is a contagious and infectious malady, communicated to man by animals, and the virulence of which is due to the presence of bacteria in the blood. The generalisation of the disease in the system may be expected to be prevented by employing agents which destroy the bacteria or hinder their penetration into the blood—agents such as sulphuric acid, corrosive sublimate, the *Pâte de Vienne* are to be recommended when the malady manifests itself as Malignant Pustule. Iodine injections, as well as iodine internally, should be resorted to, according to Davaine, in Anthracoid Œdema. Hauer recommends, in addition, the administration of sulphate of quinine internally.

Abstract of the Proceedings of the Royal College of Veterinary Surgeons, Veterinary Medical Societies, etc.

ROYAL COLLEGE OF VETERINARY SURGEONS.

SPECIAL MEETING OF COUNCIL, HELD MAY 30TH, 1876.

Col. SIR FREDERICK FITZWYGRAM, Bart., in the chair.

Present—Professors Brown, Pritchard and Axe, Messrs. Dray, Fleming, Greaves, Gowing, Talbott, Harpley, Moore, Field, Batt, Balls, Cartledge, Woodger, and the Secretary.

It was moved by the SECRETARY, seconded by Mr. HARPLEY, "That the late President take the chair." Carried.

Col. Sir F. Fitzwygram having taken the chair,

The SECRETARY read notice convening the meeting.

The minutes of the two last special meetings were read and confirmed.

Mr. DRAY, in proposing the re-election of Sir Frederick Fitzwygram to the office of President, said it would be almost a matter of supererogation to refer to the efficient manner in which the duties of President had been performed by Sir Frederick during his year of office, because the fact was patent to all the members of the Council. He questioned if ever the office had been so well filled by any of Sir Frederick's predecessors; and he thought the Council would be wanting both in gratitude and respect did they not re-elect their President, whose liberality and disinterested acts to the profession were beyond all commendation. There had been no inharmonious feeling on the part of the members of Council in the transaction of its business during the past year, which was, no doubt, owing to the fact that Sir Frederick happily blended the *suaviter in modo* with the *fortiter in re.*

Mr. HARPLEY, in seconding the motion, said he endorsed every word which had been spoken by Mr. Dray in reference to the President.

On the ballot being taken, Col. Sir F. Fitzwygram was declared to be unanimously elected.

SIR FREDERICK FITZWYGRAM.—I thank you very heartily for the compliment you have paid me. It was not my wish again to have accepted this office, nor had I intended to do so. I feel that this is an office which is an object of honourable desire to many members who have worked in this profession, and for many reasons it was scarcely desirable that I should fill it a second time. But of late there have occurred circumstances connected with the Highland and Agricultural Society, and also in the delay which has taken place in our obtaining the ratification of our Supplementary Charter, that have led me to feel a desire that I should be permitted to be present at the crowning of the edifice we have tried to build up during the past year—namely, that of a Supplemental Charter, by which the erection to the Council may be conferred equally upon all members of the profession, as well as those residing in the neighbourhood of London, and that I should also be present at the laying of what I may call the coping stone of veterinary education by lengthening the term to three years instead of the shorter period under which, at great disadvantage, veterinary students have laboured hitherto. I trust that we may be able to resist the application of the Highland and Agricultural Society, which, if successfully resisted (as I understand from the words of the Committee that attended the Privy

Council Office), would in all probability lead that society to relinquish the minor certificate they have been in the habit of granting, and thereby restore complete unity to the Veterinary profession. If these objects be attained in the present year, I shall feel only too proud to have occupied the office of President when such a desirable termination shall have been achieved.

Election of Vice-Presidents.

On the ballot being taken, the following gentlemen were declared duly elected Vice-Presidents for the year :—Messrs. Hunt, Cartwright, Withers, Duguid, Walley, and Naylor.

Election of Treasurer and Secretary.

On the ballot being taken Mr. Withers was re-elected Treasurer, and Mr. Coates was re-elected Secretary.

The business of this special meeting having been concluded,

A SECOND SPECIAL MEETING

was held for the transaction of other business.

Correspondence.

The SECRETARY intimated that the following letters had been received :—

Letter from Professor Brown acknowledging his re-election as a member of the Council.

Letters from the examiners and competitors for the Fitzwygram prizes, in answer to which each prizeman was informed that a certificate would be drawn out and forwarded to him by Colonel Fitzwygram.

The following letter was received by the Secretary from Mr. G. A. Banham, the first prizeman, acknowledging the receipt of the cheque.

"60, *Park Street, Cambridge.*

"DEAR SIR,—I have very much pleasure in acknowledging the receipt of the cheque you so kindly forwarded to me ; it is far beyond my expectations, and does me more credit than I deserve. I should be obliged to you if you would thank the President, and tell him from me that I hope I may not disgrace the prize I have been fortunate enough to obtain, but that I may be able to show by future work (for which this is a stimulus) that I am worthy of the honour he has done me, which I cannot yet feel is due to me.

"I am, dear Sir,

"Yours very sincerely,

"*W. H. Coates, Esq., Secretary,* "G. A. BANHAM.

"*Royal College of Veterinary Surgeons.*"

The Fitzwygram Prizes.

The SECRETARY read the report of the examinations for the "Fitzwygram Prizes," which has already been published in the veterinary journals.

It was proposed by Mr. MOORE, seconded by Mr. CARTLEDGE, and resolved, that the report be entered on the Minutes.

The Report of Examinations in Edinburgh and Glasgow was read.

A letter was received from Mr. Dunsmure, dated 22nd April, in which he stated that at the examinations in Edinburgh and Glasgow three of the examiners, Dr. A. Crum-Brown, Dr. A. Thomson, and Mr. Wilkinson, were not present. The absence of the first two was satisfactorily accounted for,

but Mr. Wilkinson had not replied in answer to a letter asking the reason of his absence. The letter further stated that none of the Edinburgh students made such an appearance as to entitle them to marks of credit, although two students from the Edinburgh College very nearly came up to the standard. In Glasgow one of the students was entitled to the mark of great credit, and was complimented by the Chairman. Of the eight students who gave in their names for the minor examinations, two did not appear, and these two belonged to the Edinburgh New College, and had been formerly rejected. Of the six examined two were rejected from the Glasgow College, one of whom has been twice and the other three times rejected. For the Pass Examination three students were rejected in Edinburgh; and from the Glasgow School five were remitted. In Glasgow the expenses were more than in Edinburgh, owing to the cattle and sheep having been brought to town the night before the examination, whereas in Edinburgh the students were taken to the shambles and examined there.

It was moved by Mr. FIELD, and seconded by Mr. GOWING, and resolved, "That the Secretary be instructed to make further inquiry as to the absence of Mr. Wilkinson from the examinations."

A letter was read from Mr. Henry Jarvis, M.R.C.V.S., of Burwash, Sussex, enclosing a letter from a Mr. William Knight, of the Veterinary Establishment, Castle Street, Brighton, which letter bore the College arms. Mr. Jarvis desired to know by what right Mr. Knight used such arms, as he believed he was not a member of the Royal College of Veterinary Surgeons. He was informed by the Secretary that he was not, and consequently he had no right to use the arms of the Royal College of Veterinary Surgeons.

Mr. GOWING suggested that notice should be given to the Excise of Mr. Knight's having illegally used the College arms on his note-paper.

After some conversation,

The PRESIDENT suggested that the simplest way to get rid of the matter was to send a slip of the printed proceedings of the Council to the Brighton newspapers, by which the public of that town would see in what position Mr. Knight really stood.

Letter from Mr. Bath, Royal Artillery, Newcastle-on-Tyne, asking for certain information as to the Supplemental Charter.

The examinations were fixed to take place on Monday, 3rd July.

Alterations in Bye-laws.

The PRESIDENT intimated that it was his intention to propose three months hence, and in the mean time to suspend, the following alterations in the Bye-laws, of which he had given notice:

"I hereby give notice that at the first special meeting of the Council convened for that purpose I shall move the below-noted alterations, revocation of, and addition to the Bye-laws.

"*May 30th*, 1876. (Signed) "F. W. FITZWYGRAM."

Copy suspended in the Council Room of the Royal College of Veterinary Surgeons.

Proposed Bye-law 19.—The Council shall appoint *a sufficient number not exceeding* twenty-two persons to constitute the Court of Examiners, and shall from time to time fill up any vacancies which may occur.

21.—*Of the Examiners not less than six shall be members of the College. The Council shall appoint a Sectional Court of Examiners for England, and a Sectional Court of Examiners for Scotland. Each of such courts shall consist of at least four members.*

25.—Every member of the Court attending during the entire period of each meeting shall be entitled *to such fees as shall from time to time be fixed by the Council.*

28.—Each student who is a candidate for the diploma of the Royal College of Veterinary Surgeons shall during his academical course be subjected to *three* examinations.

29.—Each candidate shall forward in writing to the Secretary of the Royal College of Veterinary Surgeons as acting for England, or to the Honorary Secretary as acting for Scotland, a notice of his intention to present himself for examination, not less than seven days prior to such examination taking place, at which time the examination fee must be paid. He shall also seven days prior to *each* examination forward to the Secretary of the College such certificate or other legal proof as may be required of his having been educated at one of the recognised colleges or schools.

30.—No student shall be eligible for the first examination until he has attended at least *three terms* at the same college or school.

31.—No student shall be eligible for the second examination until he has attended at least *two terms* after passing the first examination.

32.—*No student shall be eligible for the third examination until he has attended at least three terms after passing his second examination.*

33.—A student who is rejected at *any of his examinations* shall not be eligible for re-examination unless he gives satisfactory proof of having attended the lectures and general instruction of the school at which he has been educated during the interval between such rejection and the ensuing examination as established by the Royal College of Veterinary Surgeons.

34.—An examination fee of £3 3s. shall be paid seven days prior to *each* examination *and re-examination;* and each successful candidate shall pay a further sum of £1 1s. for registration.

35.—No student shall be allowed to present himself before either section of the Board of the Royal College of Veterinary Surgeons for his first, second, or *third* examination more than three times.

36.—*At each examination and re-examination the students shall be examined in such subjects as the Council shall direct.*

37.—At *each* examination there shall not be less than *three* examiners, and in the event of any examiner falling ill or being otherwise suddenly prevented from attending at the examination, the Court shall have power to select a qualified person to supply the vacancy *pro tem.*

Bye-laws "32, 34, 36, 37, and 38," some transposed and some revoked.

The PRESIDENT then moved that it was advisable to appoint, as far as possible, the same veterinary examiners to the London and Scottish Section of the Court. He thought it was unnecessary to enter into any lengthened argument as to the advisability of doing this; the question was the possibility of being able to get a certain portion of the medical examiners to undertake the duty both in Scotland and London. There might be a possibility of getting two or three of them, if not all; and he thought it would be the common feeling of the Council that it was desirable to do so.

Mr. DRAY seconded the motion.

In answer to inquiries,

The PRESIDENT said that the object was to secure a uniform standard of qualification.

Mr. HARPLEY thought it would be desirable to ascertain the feeling of the Scotch schools on the subject.

Mr. MOORE approved of the scheme if it could be carried out.

Mr. CARTLEDGE was under the impression that such an arrangement would serve to some extent to conciliate Scotchmen in this matter. He

believed that in Scotland there was somewhat of an impression that the examinations were not conducted altogether in the same way as they were in London; and if that impression could be removed by any means which the Council could devise it would be very desirable to do so.

Mr. GREAVES thought it was very advisable to make the arrangement if it could possibly be done.

The motion was then put and carried.

The Qualification of First Fellows.

The Council then proceeded to consider the advisability or otherwise of reducing the period of fifteen years required for the qualification of the First Fellows in Clause 3 of the Supplemental Charter.

The PRESIDENT said he did not wish to enter into the argument on either side. But he thought that it was desirable to give the Council the opportunity of reconsidering the question, because he was told by the Parliamentary Agents that if the Council wished to alter the number of years it should be done at once, as the Charter had not proceeded so far through the necessary legal forms as to preclude the possibility of its being done.

Mr. GOWING thought that it was a matter for serious consideration. In his opinion the body corporate had not been quite fairly represented in the matter. There were about 2300 on the list represented as practising, which would give an average of 5 per cent., realising about 100 or more, and he thought that the percentage ought in fairness to the profession to be increased to 7 per cent. He thought that a man should be a fair practitioner if he had seven years' practice. If the 7 per cent., and the seven years' practice were adopted, it would be an advantage, and it would also benefit the College in a pecuniary point of view. He therefore begged to propose that the 5 per cent. be increased to 7 per cent., and the fifteen years reduced to seven.

Mr. DRAY seconded the motion.

The PRESIDENT deprecated the matter being looked at in a pecuniary point of view.

Mr. MOORE moved as an amendment that the clause should remain as it stood without any alteration.

Mr. CARTLEDGE seconded the motion.

Mr. FLEMING thought the question was a very important one. At the annual meeting a desire had been expressed on the part of a number of the members of the profession that the period should be reduced, and he thought the Council should not run counter to this desire without due consideration. Having, however, carefully weighed the matter, he had come to the conclusion that fifteen years was a fair period; but if it could be shown that it would be a benefit to the profession and to the fellowship itself to reduce the period to, say ten years, he was quite agreeable that this should be done.

On being put to the vote Mr. Moore's amendment was carried.

Application of the Highland and Agricultural Society to grant Diplomas.

The PRESIDENT read the following report of the Deputation appointed to wait upon the Lord President of the Council:—

"The Deputation appointed by the President to meet His Grace the Duke of Richmond in regard to the application of the Highland and Agricultural Society for a Charter to enable them to grant Veterinary Diplomas have to

report that they met His Grace at the Privy Council Office yesterday. The Deputation laid their case before the Duke, and he appeared to be impressed by their statements. He requested that a summary of their arguments should be laid before him in writing.

(Signed) "F. FITZWYGRAM, *President.*

10, *Red Lion Square, May* 30, 1876."

A Committee, consisting of the President, and Messrs. Fleming, Harpley, Field, and Greaves, was then appointed for the purpose of drawing up in writing the reasons against the application of the Highland and Agricultural Society for a Charter to grant diplomas, and to take such other measures as the Committee may think fit.

A vote of thanks having been accorded to the President, the Council adjourned.

ROYAL COLLEGE OF VETERINARY SURGEONS.

BUILDING FUND.

The following donations have been recently received :—

	£	s.	d.
Arnold and Sons, Messrs., Smithfield, London . .	5	5	0
Batt, Hartley Thos., Esq., London	10	10	0
Burgess, Willows, and Francis, Messrs., London . .	5	5	0
Cupiss, Francis, Esq., Diss, Norfolk (2nd subscription) .	1	1	0
Gill, Samuel, Esq., Hastings	1	1	0
Ridehalgh, G. J. M., Esq., Windermere (per John Lawson, Esq.)	5	0	0
Rossell, Geo., Esq., Sandiace, Derby	1	1	0
Smith, Benjamin, Esq., Barnsley	2	2	0
Stephenson, Clem., Esq., Newcastle-on-Tyne . .	21	0	0
Wilson, Wm., Esq., Berkhampstead, Herts. . . .	3	3	0

Subscriptions may be sent to the Secretary, Mr. W. H. Coates, either by Post Office orders made payable at the District Post Office, High Holborn, or by cheques crossed "Sir Samuel Scott, Bart., and Company, London." An official receipt will be forwarded in return.

CENTRAL VETERINARY MEDICAL SOCIETY.

THE ordinary meeting of the above Society was held on May 2, instead of the 4th, the President occupying the chair.

Professor WALLEY, who was introduced by Mr. Fleming to the Fellows, read a paper on "Bilious Fever in Horses." The Professor characterised the affection as a low fever, shown by an "icteric" or jaundiced condition of the visible mucous membranes, infectious in character, and associated with grave complications. It was prevalent from March to August, 1875, with occasional cases to October and the present time. It originated from the presence in the blood of an æriform poison, capable of rapid multiplication and extension, tending to produce repellation between the constituents of the vital fluid and a separation of its elements, and terminating in effusion and extravasation. Paralysis—one of the results of an attack—was due to effusion in the spinal canal; while the long continuance of the icterus was owing to structural alteration of the liver, also from effusion, or the deposition of the colouring matter of the bile in the interstitial connective tissue. The pulse, temperature, and respiration, unless the attack was violent or the

lungs implicated, were not much modified. During convalescence pruritis and desquamation of the cuticle were observed, the recovery being more rapid when the urine was copious and deposited much sediment. In the way of treatment, he gave mild aperients—as oil, sulphate of magnesia, or calomel, and made free use of the carbonate of ammonia, with aconite in cases of high fever. Failing relief from fomentations, flying blisters were used with great benefit; the counter-irritants determining the intensity of the lung complications; also stimulants were used, such as whiskey, ale, stout, etc. In one instance recovery dated from unintentional inebriation, and another from an overdose of aconite; both being ascribed to rapid absorption of the serum effused into the lungs. During convalescence he gave arsenic and nux vomica; in pulmonary complications, potassic iodide; in one, associated with Purpura, he gave ergot and quinine. His treatment was generally successful.

In the discussion which followed—

Mr. F. J. MAVOR objected to the term as calculated to mislead, considering it more as an intestinal mucous Catarrh. He did not believe aperients were admissible, but preferred dilute mineral acids, with quinine and belladonna to reduce the temperature.

Mr. HUNTING preferred to designate the affection as simple Fever with certain complications. Fever might exist, he believed, as the result of cold; the cold acting on the skin and causing local congestions, involving the kidneys, and so affecting the blood—poisoning it for want of secretion.

Mr. FLEMING did not think Professor Walley was happy in the choice of name. He had also called it infectious without advancing any proofs of the same. Still he believed all low fevers were more or less infectious. We were apt to use the term "typhoid" in referring to intestinal structural changes where there is ulceration, though it may be of a different character to that of man, and present in the large intestines.

Mr. BATT never gave aperients, but large doses of hig. ammon. acet., nitric ether, and nitrate of potass, with good diet and nursing; he also thoroughly disinfected the premises.

In reply, Professor WALLEY said he would not attempt to settle the bile-colouring question, when physicists generally differed so much. Several speakers had stated the disease was due to alternations of temperature: how, then, was it that during the extreme weather of last year at Christmas he had no cases? It had been called "Influenza," and when of the effusive type it was termed "Effusive Cellulitis," though there was often no icterus. He maintained that there was a specific cause, and that was atmospheric. He doubted whether belladonna did reduce the temperature, for he found it raised it. In such cases he gave carbonate of ammonia, or whiskey, and noticed that within an hour the patient was greatly improved. He considered stimulants decreased temperature, basing his belief on the action of ammonia in ℥ij doses; the agent acting powerfully on glandular structure, especially of the liver, and increasing the secretion as well as supplying nitrogen to the blood. He had found the best-cared-for animals were the worst affected.

A unanimous vote of thanks was accorded the Professor for his kindness in attending and furnishing the paper.

Mr. H. Dyer, M.R.C.V.S., London, was proposed as a Fellow. The Secretary announced that at the next meeting the subject would be, "Is Glanders Tuberculosis?" to be introduced by Mr. Fleming. The meeting was then adjourned. Present, twenty Fellows and seven visitors.

THE ordinary meeting of the Society was held again on Thursday, June 1st, at 10, Red Lion Square, W.C., Mr. Joseph Woodger, jun., Vice-President, occupying the chair.

The SECRETARY announced the receipt of photographs for the album from Messrs. J. Fraser, A. Mavor, and T. Walley. Messrs. J. H. Steel, of St. Paul's Road, N.W., and F. Smith, of Islington, were proposed as Fellows, and will be duly balloted for.

Mr. FLEMING brought for inspection some diseased parts of a pig which had been the subject of what is called "Typhoid," and which had been one of a large number affected in the neighbourhood of Rochester. The large intestines showed black sloughs and deposits, the ilio-cæcal valve being much diseased. These intestines were very full of very hardened fæces, which accounted for the obstinate constipation during life. The lungs and heart's surface were also marked by hæmorrhagic spots; the kidneys were permeated with yellowish deposits, and the medullary portion stained with extravasated blood. The glands generally appeared larger, and were intensely congested—the mesenteric glands looking like red sealing-wax. At the root of the tongue and on each side of the epiglottis were large deposits and sloughs. The only skin lesions were on the posterior surface of the ears, where there appeared red scaly patches. The pig was alive when it was sent to him, and it died in two days. It was much emaciated. The disease was invariably fatal.

Professor AXE had seen but one recovery. He hoped to be able to ascertain yet whether a second attack is possible.

Mr. J. HOWARD read a case of stricture of the ilium, and exhibited the dried specimen of the same,* after which Mr. FLEMING read a paper entitled "Is Glanders Tuberculosis?"

In the discussion which followed, Professor AXE observed that there were other distinctive differences—Glanders being noncongenital, and Tuberculosis being attended in most cases by *great* emaciation, and affecting all tissues nearly alike, commencing in small transparent nodules. Glanders also had a tendency to assume an acute form, while it also affected particular places, such as the air-passages and skin.

Mr. MOORE, SEN., contended that the question was definitely settled in the negative; but Mr. FLEMING, in reply, differed from him, inasmuch as several high authorities still affirm the identity of Glanders with Tuberculosis; that it is a kind of Pyæmia, and may supervene on Strangles; and that in a cow apparently healthy and in good condition, when killed for food, Tuberculosis may be found to exist. He thought a better term for the Glanders tubercle was Glanders nodule.

Votes of thanks to the essayist and chairman closed the proceedings.

Present, ten Fellows and four visitors.

JAMES ROWE, JUN., *Hon. Sec.*

LIVERPOOL VETERINARY MEDICAL ASSOCIATION.

THE forty-seventh quarterly meeting of the Liverpool Veterinary Medical Association was held in the Medical Institute, Hope Street, on Friday evening, May 12th, 1876, the President, Mr. George Morgan, in the chair. There were present Messrs. Heyes, Hutcheon, Joseph Leather, William Leather, Thomas Leather, and Moore, Liverpool; Faulkner, Greaves, Locke, T. Taylor, and W. A. Taylor, Manchester; Barnes, Malpas; Dacre, Altringham; Dobie, Birkenhead; Howell, Rochdale; Polding, Bury; Rothwell, Woolton; Storrar, Chester; Welsby, West Derby; Woods, Wigan; and the Secretary. Letters were acknowledged from Messrs. T. D. Broad, Bath; W. A. Cartwright, Whitchurch; Jno. Lawson, Manchester; W. Lewis, Crewe; W. Litt, Shrewsbury; and T. Roberts, Oswestry.

* The description of this case will appear in the August number of the *Journal.*

The minutes of the previous meeting having been read and confirmed, Mr. W. Augustus Taylor, of Manchester, related a very interesting case of retention of a fœtus in a Shorthorn cow for seven months beyond the completion of the ordinary period of gestation. The most remarkable features of the case were that the cow had evinced no sign of parturition until a few days before her death, and that with the exception of absorption of the eyes, the fœtus did not present indications of its having passed more than a few days beyond its natural term of intra-uterine life. The case was discussed by Messrs. Welsby, Woods, Storrar, Barnes, and Dobie, none of whom had seen a precisely analogous one. The practical facts elicited by the discussion were, that no risk is to be apprehended as a consequence of making an examination *per vaginam* of a cow evincing symptoms of parturition at any period of utero-gestation; that if the *os uteri* is not sufficiently dilated, and the membranes remain intact, the animal should be kept quiet and opiates administered; that if the envelopes are ruptured, efforts to procure speedy delivery should be resorted to without delay; and that section of the os uteri, in cases of protracted and rigid constriction, is frequently unsuccessful. Mr. Woods advocated the use of linseed meal to the body of the fœtus, when it had become dry from escape of the uterine fluids, in preference to oil, lard, and such like substances.

The Secretary read a letter from Mr. Lewis, Crewe, describing a case of Parturient Apoplexy in a cow occurring twenty-two days after calving. The animal is stated to have been "blind, unable to swallow, and to have been left by her owner to die; but that in twenty-four hours afterwards, she got upon her legs and rapidly recovered." Mr. Welsby related a similar case occurring five weeks after calving. His patient recovered. Strychnine was administered.

Mr. T. Taylor, of Manchester, described the leading features of the Eagley milk-poisoning case, in which he, in conjunction with two other veterinary surgeons—Mr. Greaves, of Manchester, and Mr. Molyneux, of Bolton—had been engaged.

(N.B.—It being probable that the case will be treated of at length in a proximate number of one of the veterinary journals, no notes were taken at the meeting.)

Mr. T. Taylor exhibited an enormous scirrhous cord, which he had successfully removed from a colt that had been castrated some six months previously by an operator in Derbyshire. An interesting discussion followed, which chiefly related to the causes conducing to the development of scirrhous cord. The following is a *resumé* of the opinions expressed.

Mr. Welsby: To the cord not being properly returned into the scrotal cavity.

Mr. Storrar: To the operation being performed by the caustic clam.

Mr. Woods: To the employment of too great an amount of tractive force on the cremaster during the operation, whereby it becomes so far paralysed as to be unable to keep up the cord.

Mr. Greaves: To three causes. 1st. Placing the clams so low that the epididymis is wounded. 2nd. To want of exercise, by which he believes the cord would be maintained well within the scrotum. 3rd. To neglect in replacing the cord well within the cavity after the operation.

Mr. W. A. Taylor: To constitutional idiosyncrasy. It was found to occur after each and all methods of castration, and was to be considered as evidence of a predisposition to the development of scirrhus.

Mr. Barnes invited the opinion of members upon a case of fistulous opening into the scrotum, communicating with a scirrhous cord. The horse was five years old, but the case had only been in his hands a short time.

Mr. Storrar had seen several similar cases, which he looked upon as being

fistulous cord. In his cases he had found the discharge periodical in its appearance—perhaps once or twice a year: he had remarked that during the time the discharge continued the horses did not thrive.

Mr. Greaves had seen a case of chronic disease of the cord continue for fifteen months after operation, and terminate fatally; the subject evincing all the symptoms of inflammation of the bowels.

Mr. T. Taylor next introduced specimens and described the operation of amputation of the penis. The most interesting one was that performed on a black Belgian stallion, whose penis it was found necessary to amputate on account of paralysis of eighteen months' duration. He experienced little difficulty in the performance of the operation, isolation of the urethral canal being the most tedious part. There was not much hæmorrhage whilst the animal remained on his back, and all the vessels of the *corpus cavernosum* were secured; but on the horse rising after the operation, a deluge of blood flowed from the large vessels of the skin. This hæmorrhage, however, he succeeded in arresting. For four days the animal progressed favourably, when sphacelus of the testicles set in, and the horse of course died. Mr. Taylor stated that should he be called upon to perform the operation on another stallion, he would castrate previously.

Mr. Greaves had amputated the penis on two occasions, both successfully. In two other cases of protracted Paraphymosis, he had employed an elastic compress with almost magical results.

In proposing a vote of thanks to the Manchester veterinary surgeons who had honoured the Liverpool Association with a visit, Mr. Welsby adverted to the widely extended public and scientific interest involved in the investigation of the Eagley milk-poisoning case, and expressed a hope that it would receive publicity in the veterinary journals, so that the public might see it was chiefly, if not entirely, due to an investigation by veterinary surgeons that the true source of contamination was discovered—a publicity which seemed to have been omitted by the ordinary and by the medical journals. The honour was due to the veterinary surgeons engaged in the case, and the reflection of that honour belonged to the veterinary profession.

The vote was carried by acclamation.

A vote of thanks was accorded to Mr. Lewis for his communication, and another to Mr. Morgan for presiding.

Mr. T. Taylor, of Manchester, and Mr. T. Leather, of Liverpool, were nominated for election.

RICHARD S. REYNOLDS, *Hon. Sec.*

YORKSHIRE VETERINARY MEDICAL SOCIETY.

THE spring quarterly meeting was held at the Queen's Hotel, on Thursday, April 27th, at 1.30; the President, Mr. Chas. Patterson, in the chair. The following members were also present, viz., Messrs. Naylor, Greaves, Fallding, Bale, W. G. Schofield, J. S. Carter, G. W. Carter, Spillman, Cuthbert, Ferguson, and Broughton.

Excuses for non-attendance were received from the Messrs. Freeman, Anderton, J. L. Faulkner, Jno. Schofield, and Peter Walker.

The minutes of the last meeting were read and confirmed.

Messrs. D. Spillman, of Womersley, and D. Haigh, of Shepley, were unanimously elected members.

Mr. Greaves introduced the subject of "Canker" in horses' feet, recommending the excision of the diseased portions, followed by the actual cautery at nearly a white heat, so as to destroy the whole fungoid granulations; the subsequent dressing being Carbolic Acid Lotion et Zinc. Chlor. Sol. By this

method of treatment Mr. Greaves had cured several cases. Mr. Broughton related a troublesome case of diseased sole.

Mr. Naylor related an interesting case of fracture of the neck of the femur.

Mr. Cuthbert detailed a case of difficult parturition in a mare, the head of the foal being doubled back and imbedded in the ribs. Mr. Cuthbert, assisted by Mr. Ferguson, was unable to raise the head; consequently the legs were detached from the trunk, and delivery effected, the mare dying from irritative fever. Messrs. Cuthbert and Ferguson were afterwards affected with large boils upon their arms; fortunately, all unpleasant symptoms disappeared in three weeks afterwards.

Mr. Greaves spoke upon the subject of "Bellonned," or Spasmodic Roaring; he had inserted a tube into the trachea in some of these cases, and thereby the horse was able to fulfil his daily labour.

Considerable discussion took place, and a profitable afternoon was thoroughly enjoyed.

Mr. Geo. W. Carter will introduce a paper for discussion at the July meeting.

ROYAL AGRICULTURAL SOCIETY.

AT the monthly Council meeting held on June 7, Mr. Dent, Chairman of the Veterinary Committee, reported that the Committee had considered and amended a scheme for prizes for proficiency in cattle pathology, and recommended the adoption of the following:—

The Royal Agricultural Society will offer annually the following prizes for proficiency in the pathology, causes, symptoms, and treatment (preventive and curative) of diseases affecting cattle, sheep, and pigs, to graduates of the Royal College of Veterinary Surgeons, who have been educated at the Royal Veterinary College, or at any other veterinary college in England that may hereafter be affiliated with the Royal College of Veterinary Surgeons,—1st prize, gold medal and £20; 2nd prize, silver medal and £10; 3rd prize, bronze medal and £5.

The Society request that the Council of the Royal College of Veterinary Surgeons will make the necessary arrangements for the examinations, and at the same time require the following rules to be observed:—

That a special examination be held for the competition for the above prizes in the month of December, each year, immediately after the ordinary December examination of the Royal College of Veterinary Surgeons, or in such other month as may hereafter be found necessary; and that all graduates of the Royal College of Veterinary Surgeons of not less than three and not more than fifteen months' standing be eligible, provided they have passed with very great credit, or with great credit.

The examinations will be partly written, partly *vivâ voce*, and partly practical; and the subjects for the examinations shall be confined to the pathology, causes, symptoms, and treatment (preventive and curative) of diseases affecting cattle, sheep, and pigs. The Court to consist of not less than three examiners, chosen by the Council of the Royal College of Veterinary Surgeons, and approved by the Council of the Royal Agricultural Society.

As it is necessary for a certain standard to be arrived at, no prizes will be given unless that standard has been reached.

A written report of the examinations must be sent to the Secretary of the Royal Agricultural Society as soon after they have been held as possible.

The Royal Agricultural Society reserve to themselves the right of makin

such alterations or additions to these rules as from time to time may be thought necessary.

The first examination will be held in December, 1876.

Mr. Duguid, the Veterinary Inspector attached to the Brown Institution, reported that during the past quarter he had advised members of the Society on three occasions in reference to diseases of pigs ; and had made two visits to the country on the application of members, one being in the case of Inflammation of the Lungs and Bronchitis in a Shorthorn heifer, and the other a case of Anthrax in lambs belonging to Mr. Gaitskill, of Hall Santon, Holmbrook, Carnforth, Lancashire. On May 18, Mr. Gaitskill wrote stating that he had lost twenty-six lambs out of a lot of ninety-four, and that three ewes had also died in the course of five days. He also sent two lambs for *post-mortem* examination. The following day he sent a telegram stating that on that morning twelve more lambs and several ewes had been found dead. Mr. Duguid reached the farm on the 20th, and found the mortality still progressing. By that evening two-thirds of the lambs had died, and about twenty ewes. It appeared that Mr. Gaitskill's flock had recently been divided into two lots, and the mortality occurred in one, the other remaining perfectly healthy. The unhealthy part of the flock had been grazing for some days on land which had been newly rented by Mr. Gaitskill, and on the first few lambs dying he removed them from this land. On inquiry, it appeared that black water was not uncommon in the district, and a similar mortality had taken place among sheep on the same land last year ; and some Irish cattle placed on the pasture previous to the sheep had shown symptoms of illness after being on it a few days. Last Christmas, in opening up a drain that had been choked, portions of the carcase of a cow were found. This cow had died, and had been buried close to the drain in 1874. During 1875, the carcases of some sheep and of a mare that died were not buried at all, but left lying on the surface, to be devoured by dogs, birds, etc. The history of this outbreak quite corresponded with some of the more extensive ones reported from Central Europe, which, according to competent authorities, are frequent and severe according to the mode of disposing of the dead animals. Mr. Duguid recommended palliative and preventive measures rather than active remedies, including the removal of dead animals and separation of diseased from healthy ones, as well as small doses of purgative medicine, followed by small doses of nitre. On the evening of the 23rd, Mr. Gaitskill wrote that during the previous night only one lamb had died, and that the whole looked better, and some of the infected ones showed signs of recovery.

The Committee recommended that the Secretary be instructed to thank the North-Eastern Railway for lending two horse-boxes to convey to the Brown Institution the cattle required for the experiments on Pleuro-pneumonia. Dr. Burdon-Sanderson reported that the animals had arrived safely, and that the experiments had been commenced.

The report was adopted.

THE HIGHLAND AND AGRICULTURAL SOCIETY'S VETERINARY CERTIFICATES.

On May 24, a large and influential deputation from the Highland and Agricultural Society waited upon His Grace the Duke of Richmond, with whom was Mr. Peel (Clerk of the Council), at the Privy Council Office, Whitehall, for the purpose of asking that a charter should be granted to that Society by which their powers of granting certificates might be extended to

that of diplomas. The deputation consisted of the Earl of Dalkeith, M.P., the Earl of Dalhousie, the Earl of Strathmore, Lord Oranmore, the Earl of Mar and Kellie, the Earl of Southesk; Mr. M'Lagan, M.P.; Captain Tod, chairman of the veterinary department of the Society; Mr. J. A. Dallas, V.S.; Mr. Finlay Dun, Mr. Arthur E. Baird; Mr. C. Dalrymple, M.P., Mr. Robert Dundas, M.P.; Sir W. Stirling-Maxwell, M.P.; the Hon. Geo. Waldegrave Leslie; Sir Wm. Edmonstone, Bart., M.P.; Mr. Whitelaw, M.P; Sir Thomas Gladstone; Mr. Ramsay, M.P.; Mr. Mackintosh, M.P.; Sir E. Colebrooke, M.P.; Mr. Vans Agnew, M.P.; Mr. Yeaman, M.P.; Sir Graham Montgomery, M.P.; Sir Alexander Gordon, M.P.; and Mr. Menzies, secretary of the Society.

SIR W. STIRLING-MAXWELL introduced the deputation, and explained that the Society only had the power of granting certificates to the veterinary surgeons of Scotland, and they desired to have the further power of granting diplomas, in the same way as was possessed by the Royal College of Veterinary Surgeons in London.

Mr. MENZIES said the Society had heard with great regret that a proposal was before his Grace by which it was feared that they would be deprived of the advantages hitherto enjoyed in respect to veterinary teaching, and that the country also would be deprived of that recognised advantage which it had enjoyed in having so distinguished a school of veterinary art in Scotland.

Captain TOD observed that the object in bringing forward the petition was with the view of elevating the position of the veterinary surgeons in Scotland, and giving them such a standing that their evidence would be received in all courts of law. There was a great desire throughout Scotland that this charter should be granted. There were two colleges in Edinburgh and one in Glasgow, which had been very ably conducted under a separate staff of professors, each with a principal, who were recognised throughout the country as eminent in their profession. All they petitioned for was power to appoint a council, which might select boards of examiners to grant diplomas.

The DUKE OF RICHMOND said the question, no doubt, was an important one, and he was glad of an opportunity of meeting the members of the Society to hear their views. He understood the idea was that it would elevate the veterinary art in Scotland by giving diplomas to those who held certificates, and thus placing them in a higher position?

Captain TOD replied in the affirmative.

The DUKE OF RICHMOND asked if there was not a body in Edinburgh which granted diplomas?

Captain TOD replied that the Royal College examined students every every year in order to get diplomas from the Royal College of Surgeons in London.

The DUKE OF RICHMOND said that was what he meant. The Royal College of Veterinary Surgeons having their headquarters in Scotland held annually examinations in Edinburgh. He asked if many gentlemen holding certificates from the Highland Society also held a diploma from the Royal College of Veterinary Surgeons?

Captain TOD replied that there were in some cases, the reason being that gentlemen holding the Society's certificates were not otherwise able to obtain appointments in the army. He also stated, in reply to his Grace, that the change would save the young students the expense of having to pay for a diploma from the Royal College of Veterinary Surgeons in London, which cost them seven guineas.

The DUKE OF RICHMOND observed that it was a question of one diploma being cheaper than the other. He thought the position of the veterinary surgeon would not be bettered from his holding a diploma from the one more

than the other. Their social status would be the same. He asked whether it was not a question of which charged the highest or the lowest fee?

Captain TOD reminded his Grace that they had done a great deal for medical science, and it would be a great advantage to Scotland to have the privilege of giving diplomas direct themselves.

The DUKE OF RICHMOND said that was another thing altogether. That was not as to the benefit of the gentlemen who asked for diplomas, but it would be putting the Highland Society upon a footing of granting that which they could not do at present—putting them on the same footing in the veterinary art as the Royal College of Veterinary Surgeons. He was only asking these questions in order to gather all the information he could.

SIR WM. STIRLING-MAXWELL said the restrictions did not hold good in any other profession in Scotland, and why the same rule should not apply to the veterinary art they could not understand.

The DUKE OF RICHMOND, after some further conversation, asked to be supplied with certain documents connected with the subject. He asked, if they got a charter, whether it would do more for them?

Mr. MENZIES replied that it would enable them to make the certificate legal. They thought that if they did not get the power to grant diplomas, they would have to give it up altogether.

The DUKE OF RICHMOND said he was not going to give any opinion or any idea of what his views were, but all that they had said should receive his earnest consideration.

Parliamentary Intelligence.

HOUSE OF COMMONS, JUNE 1.

Veterinary Department of the Privy Council.

Lord SANDON, in answer to Mr. BEACH, said :—The report of the Veterinary Department is now in the printers' hands, and will shortly be laid upon the table of the House. It has been delayed, I am too sorry to say, in consequence of the serious indisposition of the Secretary.

Army Veterinary Department.

Gazette, May 30th.

ROYAL ARTILLERY.—The following Veterinary Surgeons on probation, to be Veterinary Surgeons :—J. Mills, vice P. Moir, resigned; T. Flintoff vice Veterinary-Surg. First Class, R. Poyser, transferred to the 6th Dragoon Guards.

Veterinary-Surg. J. Hammond, 19th Brig. Royal Artillery, on returning to India from leave, has taken up duty at Lucknow, and Veterinary-Surg. J. C. Dwyer, A Brig., R. H. A., at Morar. Veterinary-Surg. Garratt has been granted sick leave from India to England to appear before a medical board.

Notes and News.

SHOEING VICIOUS HORSES.—The *Suisse Romande* states that a horse, no matter how vicious and obstinate he may be when attempts are made to shoe him, can be rendered quiet and manageable by making him inspire during the operation a few grammes of the ethereal oil of parsley dropped on a handkerchief.

A large number of trials of this substance have been made with the most troublesome and violent animals, and in every case with perfect success, according to the above journal.

REPRESSION OF EMPIRICISM IN BELGIUM.—The *Annales de Méd. Vét.* of Brussels informs us that the Correctional tribunal of Mons has sentenced a notorious quack to fifteen days' imprisonment, for illegally practising veterinary medicine. Our Belgian colleagues are to be congratulated on the protection the law affords their profession, while the general public are no less to be felicitated on their being spared the evils which attend free trade in empiricism and imposition.

STOCK IN ONTARIO.—At the last census the horses numbered 113,647; neat cattle, 504,963; sheep, 575,730; and swine, 394,366.

VETERINARY SURGEONS IN GERMANY. — According to Müller and Roloff's *Veterinär-Kalender* for 1876, there are about 3289 veterinary surgeons in the German empire; of this number 2587 are civil and 702 military. There is, on an average, one of the former to every 3·8 square miles (the German mile is equal to 4⅝ English). These are very unequally distributed, however, in different States. For instance, in Wurtemberg there is a veterinary surgeon to every 1·01 square mile; in Saxony one to every 1·04 mile; in Baden to 2·14 miles; in Bavaria to 3·3 miles; and in Prussia to 5·2 miles. Prussia has 1723 veterinary surgeons; of these 17 are teachers in the Berlin and Hanover Schools; 426 are official veterinary surgeons (11 veterinary assessors, 32 department and 383 district veterinary surgeons), and 496 are army veterinary surgeons (*Rossärzte*). Of the latter 7 are corps, 9 upper, and 398 staff, ordinary, and under veterinary surgeons (*Unter-Rossärzte*). Bavaria has 417 veterinary surgeons; of this number 340 are civil, 11 of whom are teachers in the veterinary school and 158 in the public service—1 kingdom, 8 county, and 149 district veterinary surgeons. In the army there are 90 veterinary surgeons: in active service 1 Principal staff (*Oberstabsveterinär*), 2 corps staff, 14 staff, 19 first-class, and 16 second-class veterinary surgeons. In the Reserve and Landwehr there are 15 first class and 12 second-class veterinary surgeons, with 7 staff, 2 first and 2 second-class, for extra service. In Wurtemburg there are 341 veterinary surgeons, 30 of whom are in the army; in Saxony 262, 43 of whom are military; in Baden 130, 18 being in the army; in Hesse 75, of whom 17 are military; in the two Mecklenburgs 97, 10 being in the army; in Oldenburg 33, 7 of whom are in the army; in Alsace 68; in Brunswick 45, 4 being military; in the Saxony principalities 45; in Reuss, Schwarzburg, Anhalt and Lippe 44; in the Free States 18.

SANITARY CONDITION OF THE BAVARIAN ARMY HORSES.—In the last quarter of 1875, in an establishment of 14,166 horses, 1489 were admitted to treatment; of these 1073 were cured, 7 were incurable but retained for further service, and 7 also incurable were cast and sold; 19 died, and 1 with Glanders and 3 with incurable bone affections were destroyed. At the end of the quarter there remained 379 under treatment. The 19 deaths were due

to the following: 13 to inflammations or their *sequelæ*, 2 to Typhus; 2 to rupture of the stomach, and 2 to internal hæmorrhage. The proportion of deaths to cases of sickness was as 1 to $64\frac{17}{23}$.

SANITARY CONDITION OF THE SAXON ARMY CORPS HORSES.—The sanitary condition of the twelfth German Army Corps (Saxon) for 1874 has been reported by Corps Veterinary Surgeon Jacob. Including the cases remaining from the previous year, 3104 horses were under observation and medical treatment during 1874. Of these 916 were affected with internal, and 2188 with external maladies; 2855 were cured, 38 incurable were retained for service; 42 were cast; 52 died; 25 were killed; and 91 remained under treatment at the end of the year. Of those killed were 3 horses with unmistakable symptoms of Glanders, and 22 with external incurable diseases. The majority of the latter occurred during August and September, when the horses were in cantonments, and were chiefly bone fractures. The average loss from deaths and horses killed were in the total number of sick, from internal diseases 5·34 per cent., and external diseases 1·32 per cent.

VETERINARY JOURNALISM.—We welcome with much pleasure the re-appearance of two French veterinary journals, the publication of which was suspended during the Franco-German war. The first of these is the *Journal de Médecine Vétérinaire et de Zootechnie*, which, issued for twenty-six consecutive years by the Lyons School under the title of *Journal de Médecine Vétérinaire*, now appears, as before the French disasters, with an excellent staff, and Peuch and Cornevin as editors-in-chief. The last-named veterinarian was one of the two editors of the *Annales de Zootechnie*, published at Nantes, and which now ceases to appear as a separate publication, having attached itself to, or incorporated itself with, the resuscitated journal; hence the affix of *Zootechnie*. We anticipate a prosperous career for the Lyonnaise periodical; in its previous existence, under the able direction of Professors Saint-Cyr and Peuch, it was among the best and most original of the Continental journals, and with such support as it now will receive from its excellent staff, among whom we notice the names of Chauveau, Lecoq, Tisserant, Rey, Tabourin, Peteaux, and Toussaint, much may be expected from it. Our earliest reminiscences of good foreign work are associated with this journal, and the numbers now to hand do not disappoint us. The other re-appearance is the *Revue Vétérinaire*, published at Toulouse, and edited by the distinguished veterinary professor, M. Lafosse, and his colleague of the Toulouse School, M. Mauri. This monthly periodical is issued under the above title, though it may be said to represent the *Journal des Vétérinaires du Midi*, started in 1838 by a society of veterinary surgeons, and well conducted under the auspices of M. Bernard, then clinical professor at the Toulouse institution, and whose memory is justly held in high esteem. The *Revue* gives excellent promise of being a valuable addition to our periodical literature.

An entirely new French journal appeared on April 1st—the *Archives Vétérinaires*, published at the Alfort School, and edited by Professor Reynal, director of the school, with the assistance of many of the teachers. This is a semi-monthly journal, and is published on the first and twenty-fifth of every month. The advent has been very promising, and it has our best wishes for its success.

Not to be outdone by the appearance of a newly-fledged and more frequent contemporary in the French capital, the *Recueil* has changed the interval in its issue also to twice a month, and with undiminished *élan* strives to be foremost. We shall await with some anxiety the result of the trial of these semi-monthly professional journals. For our own part, we cannot say that we are in favour of the mean between a weekly and a monthly issue.

We have also much satisfaction in announcing the advent of a new Italian

publication, the *Archivio di Medicina Veterinaria*, a bi-monthly journal issued by the Royal Superior Veterinary School of Milan, of which it purports to be not only the organ, but is also to give a summary of events and scientific progress in countries beyond Italy. The *Archivio* is edited by Professors Lorenzo and Lanzillotti-Buonsanti, and the first number, which is now before us, contains excellent matter of an advanced scientific character. This journal takes the place of the excellent *Gazetta Medico-Veterinaria*, which, for five years, was brought out at this school, under the direction of Professor Oreste, who, on being transferred to the Naples Veterinary School, has also carried the *Gazetta* with him, and has enlisted the staff of that celebrated establishment in its production.

It is reported that Professor Röll, of the Vienna Veterinary Institute, retires from the editorship of the *Oesterr. Vierteljahresschrift für wissenschaftliche Veterinärkunde*, and that Professor Forster takes his place, with Dr. Müller as co-editor.

Perhaps never at any previous period was there so much literary activity and zeal exhibited among our colleagues on the Continent as at present exists. It is a very significant indication of the rapid advance veterinary science is making.

CONTAGIOUS DISEASES IN IRELAND.—A return to the House of Commons, procured by Mr. Butt, M.P., has been printed, from which it appears that, under the tenth section of the Cattle Diseases (Ireland) Act, 1866, there was assessed, on the 18th of April 1866, at one farthing poundage on all the Poor-law Unions, £13,474, and on the 24th of July 1874, at the same poundage, £13,966 18s. Under the certificate of the 18th of April 1866, £17,859 4s. 11d. was received, and the disbursements were £12,251 2s. 5d., leaving £5,608 2s. 6d. to refund to the treasurers of Poor-law Unions. Under the second certificate, the receipts were £14,839 9s., and the disbursements £14,476 19s. 4d. A specific account is given of the disbursements. The amounts voted by Parliament in connection with the cattle disease were, in the last four years respectively, £2,777 8s. 2d., £1,893, £1,801, and £1,903.

Mr. Murphy, M.P., has obtained a return of diseased animals seized or detained at the various ports in Ireland. In 1875 the shipments were—Cattle, 595,530; sheep, 918,087; and swine, 463,618. The number of animals seized or detained was—cattle, 4 for Pleuro-pneumonia, for Foot-and-mouth disease of cattle, 74; sheep, 54; and swine, 147. There were 100 sheep affected with Scab. Similar returns are given for the three preceding years.

APPREHENDED IMPORTATION OF RABIES INTO AUSTRALIA.—"Mr. J. F. Shaw, one of the Victorian inspectors of stock," the *Hamilton Spectator* observes, "has called attention to the necessity for adopting some precautionary measures to prevent the introduction of Hydrophobia into the colony. He says that Rabies is not spontaneous either in very cold or very warm climates, but, as everybody knows, the virus is communicable by the bite of a mad dog, either to another canine or to a member of the human family. At present, in this colony, if a person be bitten by a dog, there is no cause for alarm; but in England, where Rabies has prevailed from time immemorial, the case is far otherwise. The special circumstances which have raised the question into importance are—firstly, the new craze for coursing, which has brought about an extensive importation of dogs; and secondly, the increased speed of steamers and clippers, which may eventuate in landing diseased dogs upon our shores before the malady has had time to develop itself, and consequently before anybody can be aware of the mischief which may be threatening."

ARTIFICIAL HOOF-HORN.—M. Defay has discovered a preparation, by means of which sand-cracks or fractures in hoof or horn may be durably cemented up. Even pieces of iron can be securely joined together by its means. The only precaution necessary for its successful application is the careful removal of all grease by spirits of sal-ammonia, sulphide of carbon, or ether. M. Defay makes no secret of its composition, which is as follows :—Take one part of coarsely-powdered gum-ammoniac, and two parts of gutta percha in pieces the size of a hazel nut. Put them in a tin-lined vessel over a slow fire, and stir constantly till thoroughly mixed. Before the thick resinous mass gets cold, mould it into sticks like sealing-wax. The cement will keep for years, and when required for use it is only necessary to cut off a sufficient quantity, and re-melt it immediately before application. We have frequently used this cement for the repair of seriously broken hoofs ; it is so tenacious that it will retain the nails by which the shoe is attached, without tearing away from the hoof.

ABOUT CRIB-BITERS.—A writer on this subject, in the columns of the *Deutsche Landeszeitung*, remarks that all endeavours to prevent crib-biting by means of artificial halters, have hitherto proved but palliative measures. Sooner or later the sagacity of the horse teaches him to get over the obstacles they offer to the indulgement of his vicious habit. Halters guaranteed as "radical cures" are exported from Belgium and England ; they cost a good deal of money, and in a short time are thrown aside as useless. The writer somewhat drily remarks that as artificial means have failed it might be well to try a natural remedy. He suggests that crib-biters should have their mangers placed very low—about on the same level as they are in cow-houses. When thus placed, any attempt on the part of the most inveterate crib-biter to indulge in his favourite propensity proves a failure. Of course such mangers must not be made of wood. Experience has shown that young horses have been thoroughly cured by this plan in from one to two years. Any one can easily test the plan for himself.

SENSIBLE HOGS.—In the coffee-plantations of Ceylon, it has been customary to use the refuse left after the expression of cocoa-nut oil, as a fertiliser. Cocoa-nut cake is a *bonbon* to the palate of the wild hog, and consequently the coffee-planter used frequently to find his fields rooted up and destroyed, to the great detriment of his profits and of his morality. Recently the refuse of the castor-oil manufacturer has been substituted, with great relief. Its fertilizing effect is very great, and the wild hog cares too much for his palate and intestinal tract to disturb the nauseous and poisonous compost.

HOW TO BUY GOOD MEAT.—In order to make sure as much as possible to buy good meat, the following rules should be observed in the purchasing, to distinguish good wholesome meat from meat obtained from diseased and bad animals. Good and wholesome meat should neither be of a pale rosy or pink colour, nor of a deep purple. The first denotes the diseased condition ; the last proves that the animal has died a natural death. Good meat has more of a marble look, in consequence of the branchings of the veins which surround the adipose cells. The fat, especially of the inner organs, is always firm and suety, and never moist, while in general the fat from diseased cattle is flabby and watery, and more often resembles jelly or boiled parchment. Wholesome meat will always show itself firm and elastic to the touch, and exhibit no dampness ; while bad meat will appear soft and moist—in fact, often more wet, so that the liquid substance runs out of the blood when pressed hard. Good meat has very little smell, while unsound meat has a disagreeable, cadaverous smell, and diffuses a certain medicinal odour. This

can be distinctly proved by cutting the meat through with a knife and smelling the blade, or pouring warm water over it. Lastly, bad meat has the peculiarity that it shrinks considerably in the boiling, while wholesome meat rather swells, and does not lose an ounce in weight.—*National Food and Fuel Reformer.*

Obituary.

WITH feelings of profound sorrow and regret we have to announce the decease of John Wilkinson, Principal Veterinary Surgeon to the British Army, in his seventy-third year; this sad event having occurred at Hampstead on the morning of May 28th, quite suddenly, and in less than two hours' illness. The cause of death was spasm of the heart—an affection which had never shown itself in him before; indeed, until the evening previous to the attack he was in his ordinary good health. We are sure that this painful intelligence will excite deep emotion among the very many to whom he was so well known, and by whom he was held in such great respect and esteem. For ourselves, we grieve to say that we have lost in him one of our earliest and most sincere friends, one of the few to whom we owe unspeakable gratitude for advice and encouragement at a period when these were most essential and valuable, and whose unchanging amity and generous counsel it has ever given us the greatest pleasure and pride to acknowledge. On this account his memory will ever be dear to us.

Our lamented friend graduated on January 25th, 1825, and was gazetted to a regiment of cavalry, we believe the 17th Lancers, on April 27th, 1826, in which corps he served while it was commanded by H.R.H. the Duke of Cambridge. At a later period he was transferred to one of the regiments of Household Cavalry, and on July 12th, 1854, on the death of Mr. Cherry, he was gazetted as Principal Veterinary Surgeon to the British Army. During the whole of his career, he never had an opportunity of being sent on active or foreign service, though he was ordered on a special mission to Turkey for the purchase of horses previous to the Crimean War, which duty he performed to the satisfaction of the Government.

Having served for the extraordinary period of more than fifty years—for twenty-three of which he was head of the Veterinary Department—Mr. Wilkinson was by a long interval senior Veterinary Officer, and we fancy nearly, if not quite, the senior full-pay officer of any department in the army.

During these many years, and especially since he became Principal, great changes have occurred in the position of veterinary science in this country; and the department over which he so ably presided, and which has now assumed such dimensions and importance, may be said to have been of his creation. It would be supererogation to refer to the services he has rendered his country; we have but to look to the condition of our mounted corps at home and abroad, particularly with regard to the health and efficiency of the horses, unequalled in the army of any other nation, and to the sanitary arrangements which ensure these, and compare them with what they were when he first joined the service, to gain but a faint notion of the task he undertook and the manner in which he accomplished it, and often with the most crude materials.

Mr. Wilkinson, it must in justice and truth be said, was one of the oldest and most faithful servants of the State: most sensitive and unselfish, his heart was in the profession, and especially in his own department of it; and morning, noon, and night he unweariedly laboured for what he honestly believed to be its good. His death occurred when all arrangements for retirement had been completed, and a season of well-earned quiet and repose was on the point of dawning. We know not how much the pangs of closing an active and anxious career, and the prospect of giving up what had become a second existence, and almost the only thing worth living for, may have operated in producing the cruel infliction that so abruptly deprived us of one whose disappearance will leave gaps in many friendships. Our most tender sympathies are with his family, by whom he was revered as only a good father could be; but more especially do our condolences go to her who for so many happy years shared, as only a loving wife can share, his sorrows and his joys, his pleasures and his trials.

Though among the most devoted and oldest officers in the British army, and though his services have been so markedly beneficial to his country, Mr. Wilkinson has died without recognition in any way by the State. We have long been in anxious expectation that such a career would receive some mark of approval, for never was it more deserved; but now the discouraging suspicion haunts many that nothing an Army Veterinary Surgeon can do will entitle him to what is often so liberally bestowed in other departments. We trust, for the sake of the country, and more especially for that of the army, that this suspicion may not become a belief—as nothing could be more discouraging and disastrous. But we cannot deny the evidence of facts, to which this sad event furnishes the most recent contribution.

For a very long period, Mr. Wilkinson, like many other army veterinary surgeons, took a warm interest and an active share in professional politics, and in promoting veterinary education. In 1860 he was elected President of the Royal College of Veterinary Surgeons, and in 1870 was again placed in that honourable position; in 1846 he was appointed a Member of Council, and this office he held up to the time of his death. He was also a member of the Court of Examiners of our Corporation from 1851 to 1873; and for several years he was one of the Governors of the Royal Veterinary College.

The death of M. D. Byrne, M.R.C.V.S., 16th Lancers, has been reported. Mr. Byrne was, we understand, on sick leave from India when he died. He graduated December 21st, 1859.

The death is also announced of Mr. J. B. Richardson, late of Birmingham, who received his diploma May 14, 1851.

In addition to these we are informed of the death of Mr. John Wishart, M.R.C.V.S., of Melrose, Roxburghshire, who graduated on April 11, 1832; Mr. John Herd, M.R.C.V.S., of Appleby, who became a member of the profession April 23, 1845; Mr. Alex. McDougall, M.R.C.V.S., Glasgow, who graduated April 15, 1867; Mr. John Bridge, M.R.C.V.S., Burnley, Lancashire, who also graduated April 16, 1869; Patrick Ferguson, M.R.C.V.S., of Peebles, who became a member of the profession on April 18, 1833; and Edwin O. Harrison, late Royal Artillery, who graduated May 11, 1848.

Correspondence.

HONORARY VETERINARY SURGEONS TO THE QUEEN.

To the Editor of the VETERINARY JOURNAL.

SIR,—Now that the members of the veterinary profession have a new journal, through the medium of which they can freely discuss questions of moment and importance,—a journal whose tone is in keeping with the spirit of the times, and whose greatest object seems to be the elevation of veterinary science,—I presume upon offering a few remarks on the subject of "Honorary Veterinary Surgeons to the Queen."

I may preface my remarks by stating, that every circumstance which has a tendency to elevate veterinary science, exalts in an equal degree the position of the members of that science, and *vice versâ*.

A consideration of this question has naturally led the writer to seek out what incentive, in the shape of distinctions, has been bestowed by the State on those members of the veterinary profession who have laboured hard in the cause of science, and by whose exertions the country has profited to a considerable extent.

Were it necessary, it might be easily proved that the freedom from those malignant diseases among cattle in the present day—diseases which have in former times been a considerable drain on the wealth of the country—is due in a great measure to the light that has been brought to bear on them by the investigations of scientific veterinary surgeons.

If we turn our attention to the veterinary department of the army, we find the rate of mortality and disease among the horses reduced to a degree that the most sanguine could scarcely have expected some fifty years ago. And the efficiency of the horses of our service is certainly twenty per cent. greater than it was fifty years ago. There is an exemption from contagious and infectious diseases which speaks highly for the manner in which the veterinary surgeons of our army do their duty.

To what, we may ask, is this low rate of mortality due? To what are we to attribute so much of the efficiency alluded to? and on what account is it that those vexatious contagious and infectious diseases are so rare nowadays? This freedom from disease, this efficiency, and this low mortality, are all due to the zeal and ability displayed by veterinary surgeons in the discharge of their highly important functions.

Shall we allude to the valour displayed by those veterinary surgeons who never flinched from their duty during the weary time of the Crimean struggle?—the zeal of those men who laboured incessantly on the "ridge" at Delhi, or before the walls of Lucknow? Certainly for those events medals were bestowed: a high honour in its way. But has it never occurred to those in authority that it is in the power of the sovereign to confer a still greater honour—a reward for distinguished services, the recompense of merit, a reward for which none but really scientific and brilliant veterinary surgeons shall be eligible—by appointing really deserving men Honorary Veterinary Surgeons to the Queen? Such an act of graciousness from Her Majesty would show the public that those who have the best opportunities for judging appreciate the services of those whom they honour.

The members of the sister profession consider it a high distinction to have one of their number made an Honorary Physician to the Queen; and the importance attached to such a mark of royal favour by the outside public is very great indeed. In like manner, if a similar recognition were conferred on deserving veterinary surgeons, the public would learn to judge us more

favourably, and old and long-standing prejudices would soon vanish before the magic influence of Court favour.

Has this matter ever been brought before those in authority by either the head of the Veterinary Department in the service, or by any influential members of the profession in private life? I presume I am right in giving a negative reply to the question. Who, then, is to blame if we are left out in the cold? Who is to blame if our just claims and legitimate rights are ignored? The blame should be laid at the doors of the members of the veterinary profession. Where is that spirit of unity and determination that should mark all our actions? What attempts have we made in a general way to press our claims and our rights? Unless our actions and endeavours are characterized by a higher spirit of determination for the future than has been the case in the past, I fear we shall not gain much.

The hope that such a question has not until now been brought before the members of the veterinary profession, leads me to trust that at no distant date the honour which I now presume on drawing attention to may be conferred on our deserving colleagues.

Let us trust that a better time is in store for us, and that, like every other European country, England shall fully realise the benefits to be derived from veterinary science; that Englishmen will begin to appreciate a science about which they are too ignorant; and that under such fostering influence and encouragement as we seek, our profession shall occupy that position in the world of science that it so richly deserves.

To those members of the veterinary profession whose voices carry weight, and whose influence is great, we beg to submit these remarks, in the hope that the question may be discussed freely and openly. If in thus having called attention to such a matter we shall have rendered a service to a profession to which we are deeply attached, and whose advancement we fondly look forward to, we shall feel highly pleased.

"MAX."

FIRING HORSES.

To the Editor of the VETERINARY JOURNAL.

SIR,—Having a great respect for the knowledge possessed by Colonel Maude, Crown Equerry, as regards the management of horses, still with reference to his sweeping assertion, as published in a recent letter to the *Times*, that "firing horses is totally unnecessary," and further on, "that blistering and rest produce exactly the same effect, without the torture and without the unsightly blemish which firing generally leaves behind it," I beg to offer a few remarks to prove the fallacy of his ideas. According to my practical experience, it is not only not so painful an operation in its effects as a severe application of many blistering agents, but in many cases it is not even necessary to resort to anæsthetics to remove the sense of pain, or even to cast the patient to operate.

My practice is, never to cast an animal for the purpose of firing unless he is of such an irritable disposition as not to allow of being operated upon in any other way; and when cast, I use chloroform (if not objected to by the owner), more to prevent the harassing struggles the animal will make to free himself from the restraint of the hobbles, than from the pain inflicted by the heated iron. I believe my professional brethren will allow, that if a horse is properly operated upon, and the irons are not too hot when first applied, the

parts become, as it were, numbed; and the remainder of the operation is comparatively painless.

I have frequently fired both fore-legs of hunters in a standing position, without any restraint whatever, and with no further effort on the part of the horse than an occasional stamp, as if a fly had stung his leg. Of course, I must admit that, in the hands of grooms and quacks, the firing iron is a formidable weapon; but this, I am given to understand, can only be put a stop to by an Act of Parliament prohibiting any but members of the Royal College of Veterinary Surgeons to practise. With reference to the use of anæsthetic agents in veterinary surgery, I believe I may state that every qualified practitioner makes use of them in severe operations, and a chloroform inhaler is as necessary a part of a veterinary surgeon's outfit as are firing irons, hobbles, or any other instrument. In the *Veterinary Journal* for the month of June is a short article on the use of Carbolic Acid as a local anæsthetic agent, as used by many surgeons after the application of the actual cautery. Had Colonel Maude deprecated the *abuse* of blisters, his remarks would have been more to the point; for hundreds of horses are, year after year, tormented by being blistered after the hunting season, when rest alone would be sufficient to "fine their legs" for the ensuing season. If Colonel Maude had confined his letter to the conditioning of horses, I for one should have been delighted to profit by his practical remarks, for the world at large can bear witness to his skill in that department. But, with all due deference, I venture to assert that Her Majesty's horses are not put to such severe work, nor are they exposed to the various accidents incidental to the hunting field; and, no doubt, when they become *used*, they are sold and replaced by *fresh* ones.

Living as I do in the midst of a hunting country, and having practical experience of the *necessity* for, and the good accruing from the proper application of the actual cautery, where blisters (or repeated blisters) have been of no avail, I have felt myself called upon to state my opinion in opposition to that of Colonel Maude.

I remain, yours obediently,
BENJAMIN H. RUSSELL,
Captain, M.R.C.V.S.

Grantham, June 1876.

ARMY VETERINARY STAFF IN INDIA.

To the Editor of the VETERINARY JOURNAL.

DEAR SIR,—In the February number of the *Veterinary Journal*, Mr. Poyser, in his article on "Native Cavalry and Veterinary Surgeons," alludes to the officers of the veterinary staff as having been sent to India under the belief that they were to serve in native cavalry regiments, and expresses a wish to know whence they received this erroneous impression. May I be permitted to explain?

On being promoted from the acting rank, the officers who were intended for the first batch to be despatched to India, under the then new arrangement, were informed that, as there were no vacancies in the Royal Artillery at that time, they would have to serve as simple departmental officers; to which no objection was offered.

Shortly afterwards, to their great surprise, a paragraph appeared in one of the "Service" papers, to the effect that they were being sent to India for the purpose of taking charge of native cavalry, the Government of that country having decided to give those regiments the much-needed professional assist-

ance. Whence this information was obtained is, to the outer world, unknown; but *certain* it is, that the Indian Government never had any such intention, and on arrival in this country they (the veterinary surgeons) found that they had to do duty wherever their services were required.

As to donning a "war paint" to which they are not entitled, that is entirely the fault of the officers themselves; a distinctive uniform having been laid down in the "Dress Regulations for Officers of the Army" ever since November, 1874.

An impression seems to have been produced that these officers elected to serve in India for any length of time. This, however, is wrong; for they are now, and have always been, of opinion that they come under staff rules, and consequently, after completing five years' Indian service, will either be posted to regiments or relieved. It would, however, be much more satisfactory to them if they had an official circular or order on the subject; and any of your readers knowing of such a circular or order, would be conferring a great benefit by publishing it in your journal.

Before concluding, I will crave space to add a few facts which are not generally known.

These officers, before their departure from England, were promised that none junior to them in the Department would be posted to regiments until those of the staff who wished to be so posted had been absorbed. This promise has not been kept, and several junior men have been gazetted to Royal Artillery and sent to fill Indian vacancies. To the few who have officially applied for R.A., treatment like this is very heart-burning, but to those who have provided themselves with the new uniform, of course posting to regiments would be an injury.

Apologizing for the space I have taken up,

I am, dear sir, yours obediently,

"UBIQUE."

Bengal,
22nd April, 1876.

"BORROWED PLUMES."

To the Editor of the VETERINARY JOURNAL.

SIR,—In reply to a letter received from "Hippos," along with a newspaper report from the *Scotsman* of the marriage of a Mr. Richard Rutherford, styling himself M.R.C.V.S., I have to state that there is no person of the name of "Rutherford" on the register of the Royal College of Veterinary Surgeons.

I am, etc.,

WM. HY. COATES, Secretary and Registrar.

Royal College of Veterinary Surgeons,
10, *Red Lion Square,*
June 5, 1876.

PROUT *v.* PARADISE.

To the Editor of the VETERINARY JOURNAL.

SIR,—I am pleased to think that possibly few veterinary surgeons will have read your report of this case without being stirred to sympathy with Mr. Paradise, and feeling grieved to learn that three members of our profession could be found who did not scruple to treat a professional brother so severely.

The report in the *Veterinary Journal* for May is necessarily brief, thereby making it difficult, if not impossible, to form a correct estimate of the case. Still one or two points deserve notice. I do not wish to augment the defendant's pain by telling him what, in my judgment, he ought to have done. Besides, I dare say he knows too well by this time where he has erred. However, was it wise on his part to answer the summons left by Mr. Prout, seeing that the latter regarded it as immaterial whether he obtained the services of a quack or qualified surgeon—in fact, he manifested a preference for the former?

Possibly Mr. Paradise was not aware of the plaintiff's view of the matter; but after he arrived and found White, the cowleech, there, and had examined the mare, why did he not at once stipulate that the quack should leave the premises; otherwise that he should not have anything to do with the case?

From my interpretation of the report, I feel convinced this quack was at the bottom of the whole mischief. Had he been treated as he deserved, very probably Mr. Paradise might have escaped this misfortune.

What about the evidence of the professional witnesses for the plaintiff?

"In labour, mares will get up and down *once* in a quarter of an hour." Who that has had any experience in these cases has not seen mares get up and down half a dozen times in that space? This was a case of one hind-leg presentation, and yet the jury were told that the defendant should have waited longer to let the mare deliver herself.

I have been taught, and experience confirms the wisdom of such teaching, that in abnormal presentations we should place the fœtus *at once* in any position which renders delivery possible, then give the mare time. They were further told that mares should be allowed several hours for parturition in a natural way. Very true, but this was not a "natural way"; and I believe the longer Mr. Paradise waited the more difficult this case would become.

The Court was informed how the defendant should have proceeded, and had that course been adopted, the matter could have been done easily, and required but ordinary skill. We country practitioners ought certainly to visit Cirencester for a week or so, in order to learn to accomplish easily, and with ordinary skill, what we now find most difficult, and often demanding great skill and judgment.

Had Mr. Broad been judiciously examined, I have no doubt he would, as a practical man, have shown how absurd was the whole of the evidence for the plaintiff.

It is surely a sorry satisfaction for the plaintiff's professional witnesses to know that they have ruined the prospects of a colleague. Young practitioners may gather a lesson from this trial; for it applies to all operations and treatment. In every large practice there are some clients who would not hesitate to use the power they now unfortunately possess.

A veterinary surgeon is liable to be called upon to give compensation for the loss of any patient. How often would the most careful and experienced have treated a case differently had they known what a *post-mortem* examination would reveal!

This applies equally to human surgeons.

There is one consolation in the knowledge that our ablest teachers and most experienced practitioners would not wantonly strike so cruel a blow as Mr. Paradise in this instance received. I am not acquainted with a single witness in the case; therefore I cannot be accused of personality.

I am, Sir, yours obediently,

Newbury, Berks. JAS. FRASER, M.R.C.V.S.

QUALIFIED AND UNQUALIFIED PRACTITIONERS.

To the Editor of the VETERINARY JOURNAL.

SIR,—There has been a great deal said on this subject by different veterinary practitioners, and I hope to make a few remarks which will not be useless. Firstly, may I ask why medical men should be so much better protected from quacks than the veterinary surgeon? Some people might say, "Because the medical is of a great deal more importance than the veterinary profession." Perhaps it is so. But in my opinion the veterinary surgeon ought to be protected from quacks as much as the physician, and I think he would be, but many of the veterinary surgeons do not use their influence to bring this about. I know some of the old practitioners say, "Why should we trouble ourselves about quacks? we shall not practise much longer, and therefore shall not get the benefit; let the young men do it."

I think the young, and a few of the old, practitioners would do all that is in their power to protect themselves and the public from impostors; but it is the help of *all* veterinary practitioners, and especially the old ones, that is wanted. For most people would rather listen to an old practitioner than a young one. For my part, I think that if the majority of the veterinary surgeons were to exert all their influence, they would not only be able to prevent impostors from designating themselves as veterinary surgeons, but would ultimately prevent them from practising at all. I do not think it is a proper state of things for quacks to be placed on equal terms with men who, by hard work, and at considerable expense, have gained their diplomas. If so, what good is it going to College at all?

Yours obediently,

"A VETERINARY STUDENT."

CANADIAN DOMINION VETERINARY ASSOCIATION.

To the Editor of the VETERINARY JOURNAL.

SIR,—In making the following remarks upon the proposed Veterinary Association, "which shall be the corporate body for the Dominion of Canada" (noticed in the April number of the *Journal*), allow me to disclaim all personal hostility to the scheme; for, abstractedly viewed, the proposal is one to command the warm support of all true members of the profession. But the difficulties in the way are, if not insurmountable, at least very grave. Allow me to briefly name some of them. First,—The Act of Confederation expressly delegates the power of regulating its own medical affairs to each Province. Under this Act the Board of Agriculture for Ontario sanctions the appointments on the Board of Examiners for its own college at Toronto, and grants diplomas on the recommendation of that Board. The same system, I believe, prevails in the province of Quebec. These, and other interests which are involved, with the legal difficulties surrounding the subject, render action at the present, at least of doubtful utility.

Second,—As the medical men of the different provinces do not seem able or willing to unite for such a purpose, it seems improbable that we should lead them on this question. It certainly would be well, however, if we could set them an example in the matter.

Third,—So cogent did these and other reasons appear to the directors of

the Ontario Veterinary Medical Association, that they, at a special meeting called for the purpose of discussing this question, after much consideration, unanimously resolved "That it is inexpedient at present to form such a Dominion Association."

"A DIRECTOR," O. V. M. ASSOCIATION.

Canada, April 24, 1876.

ANSWERS TO CORRESPONDENTS.

G. MARSHALL, VET. STUDENT, ALNWICK.—Thanks for the morbid specimens. The lymph-casts from the bronchial tubes of the ox are very perfect and solid, and seem to have been deposited in layers. Such casts are not very unusual in bovines, and are in many cases due to the passage of irritant substances into the bronchi. The testicle is interesting, and it is not unlikely that the atrophy was due to the presence of a hydatid, the bony fragments mentioned being portions of the cyst which had become calcified: there is no trace of bone structure.

CAPTAIN HOWARTH ASHTON.—The horse-shoe and frost screw-studs forwarded have been in general use for nearly fifty years. The studs have many objectionable features, and we have long discontinued their use. The plan we recommended in the February number of the *Veterinary Journal* is the most simple, economical, and efficient of any we ever tried. Before next winter we shall again allude to it, and give further directions as to the easiest manner of making the stud, and punching the hole in the shoe.

T. OLVER, JUN., TRURO.—We are much obliged for the "extract." There may be truth in the allusion to the designation, but something may be ascribed to jealousy.

Communications, Letters, Books, etc., Received.

COMMUNICATIONS have been received from R. Reynolds, Liverpool; J. Rowe, junr., London; J. Blakeway, Stourbridge; Professor Smith, Toronto; "Max;" "A Director," Ottawa Vet. Med. Association; Nelson and Fletcher, Sheffield; Rees Lloyd, Dowlais; G. Marshall, Glanton, Northumberland; "Ubique;" "A Veterinary Student;" S. G. Going, 1st United States Cavalry, California; Captain Howarth Ashton, Prestwich; T. D. Broad, Bath; J. Fraser, Newbury; E. Decroix, Principal Veterinary Surgeon to the Army of Lyons; J. Howard, Woolwich; Professor St. Cyr, Lyons; W. H. Coates, London; G. Gerrard, Market Deeping; W. Broughton, Leeds.

BOOKS: *Carsten Harms*, Lehrbuch der thierärztleichen Geburtshülfe; *F. A. Zurn* Handbuch der thierärztlichen Geburtshülfe; *Canon Molyneux*, Vivisection, Man's Dominion.

JOURNALS: *Gazzetta Medico-Veterinaria (Napoli); Veterinarian; Annales de Méd. Vétérinaire de Bruxelles; Der Thierärzt; Wochenschrift für Thierheilkunde und Viehzucht; Lancet; Recueil de Méd. Vétérinaire; Journal de Méd. Vétérinaire et de Zoötechnie.*

NEWSPAPERS: *Land and Water; Rod and Gun; Journal of the National Agricultural Society of Victoria; North British Agriculturist; Scotsman; Montreal Herald; Farmer; Agricultural Gazette; Australasian; Melbourne Argus.*

All Communications, Books for Review, Advertisements, etc., must be addressed to the Publisher, 20, King William Street, Strand, W.C.

Morbid Specimens are to be forwarded addressed to the Editor, "Veterinary Journal," Brown Institution, Wandsworth Road, London.

Communications must be accompanied by the name of the writer, whether he may desire to have it published or not. Anonymous letters and articles cannot be inserted. The Editor does not hold himself identified with the views or opinions expressed by Contributors. Communications for insertion in the next number must arrive on or before the 15th of the present month.